DOCUMENT RESUME

ED 322 801 FL 800 233

AUTHOR Noren, Karen Lee
TITLE Pre-Vocational Carpentry for ESL Learners.
PUB DATE 90
NOTE 135p.; Master's Thesis, School for International Training.
PUB TYPE Guides - Classroom Use - Guides (For Teachers) (052) -- Guides - Classroom Use - Materials (For Learner) (051) -- Dissertations/Theses - Master Theses (042)

EDRS PRICE MF01/PC06 Plus Postage.
DESCRIPTORS *Carpentry; Course Content; *Equipment; *Literacy Education; Second Language Instruction; *Vocabulary Development; Vocational Education; *Vocational English (Second Language)

ABSTRACT

The vocabulary-building curriculum is designed for students, teachers, coordinators, and curriculum developers in vocational English as a Second Language. The curriculum gives high intermediate to advanced students background for a course in beginning carpentry, surveying the essential tools and materials used in the carpenter's workplace. Dialogues allow students to practice vocabulary use in context. Important grammatical structures are integrated with vocabulary from the text. The curriculum has five chapters covering hand tools, power tools, fasteners, sandpaper, and lumber. Each contains three lessons enabling students to identify and understand the use of the tools and materials. Lessons consist of an overview; a list of objectives; a list of terms and expressions to be emphasized; definitions or descriptions of key vocabulary terms with illustrations; and various exercises, including identification, question-and-answer, substitution, and games. A list of references and a glossary are appended. (MSE) (Adjunct ERIC Clearinghouse on Literacy Education)

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Pre-Vocational Carpentry for ESL Learners

Karen Lee Noren

Submitted in partial fulfillment of the requirements for the Master of Arts in Teaching degree at the School for International Training, Brattleboro, Vermont.

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This project by Karen Lee Noren is accepted in its present form.

Date _____

Project Advisor _____

Project Reader Kathleen Flannery Silc

Acknowledgements:

I am grateful to those who helped me in this project:

Gwen Seazholtz, Julie Delamar and Karen Buchanan for their fine illustrations,

Karen Killmeier for producing the final manuscript,

Kathleen Flannery Silc for her helpful commentary,

Pat Moran for his advice and counsel.

Pre-Vocational Carpentry for ESL Learners

This vocabulary builder is designed for VESL students, teachers, English coordinators, and curriculum developers. The manual surveys the essential tools and materials used in the carpenter's workplace while integrating communicative functions and structures into the context. The five sections of the manual cover Hand Tools, Power Tools, Fasteners, Sandpaper, and Lumberwood. Each section contains three lessons that enable students to identify and understand the use of the tools and materials. The learning activities within the lessons give students practice using the language in realistic contexts.

ERIC Descriptors:
English for Special Purposes;
Vocational English as a Second Language;
Instructional Materials;
Vocabulary Development.

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INTRODUCTION

Pre-Vocational Carpentry for ESL Learners is a vocabulary builder to accompany a vocational skills program for VESL teachers and their students. *Pre-Vocational Carpentry* may also be useful to VESL program coordinators as a guide for curriculum development. The manual provides high intermediate to advanced level ESL students with basic knowledge of the tools and materials used in the trade. The material is intended to orient students and prepare them for entry level jobs in the carpentry field.

As more immigrants and refugees come to the United States, finding immediate employment is essential. In the job market, the building trades have a high employment rate. Carpentry in particular offers a variety of work and good experience applicable in other trades. Although the demand for workers in the field is great, non-native speakers frequently are not hired because of their limited English. Clearly there is a need for special job-related English to enable limited English speakers to communicate effectively on the job.

Some vocational ESL materials have been developed for the building trades. Many of these materials have an eclectic nature and do not specifically address any one trade. Instead, materials provide an overview of the technical English required for several trades. Some fields such as welding and electricity have special English materials. Concentrated VESL material for learning carpentry, however, is not available.

Overview

Pre-Vocational Carpentry for ESL Learners gives students a background for beginning carpentry. The text covers concepts in beginning carpentry in a simplified manner and provides an introduction to the tools and materials of the trade. The dialogues in the chapters allows students to practice using the vocabulary in a real life context. The practice activities are varied and do not depend on tedious drills. The manual also integrates important grammatical structures with the vocabulary from the text. *Pre-Vocational Carpentry for ESL Learners* will help students learn essential vocabulary while

enhancing their communicative skills for the carpentry trade.

Objectives

Students who have completed the exercises in *Pre-Vocational Carpentry for ESL Learners* will be able to identify the tools and materials employed in the trade. They will understand how tools and materials are used in the field and be able to explain how they intend to use them. Thus, students will be able to discuss tools and materials and describe their quality and characteristics. Likewise, students will gain experience with reading scales and tables describing carpentry materials. Moreover, students will acquire competence in asking and giving information, describing and classifying material, and making requests and giving advice.

Background

I chose to write a manual on carpentry for ESL learners while teaching in a building trades program. I taught vocational ESL for students learning carpentry, electricity, plumbing, and general maintenance. In preparation for the classes, I spent a great deal of time poring over textbooks filled with technical information and extracting the essential vocabulary and concepts. For some reason my students seemed to be more interested in carpentry than in the other trades. The students were also required to do more projects involving carpentry than in any of the other trades. My students' interest and the lack of resources in this area led me to develop the project.

In addition to the information found in basic carpentry texts, I carried out field observations and interviewed experts. I found Jeff Williams' Basic Carpentry Techniques particularly useful in giving me a simple and clear overview of what a beginning carpenter should know. I also received much insight from the vocational skills instructor I closely worked with for one year at the Arlington Employment Training Center. Finally, I obtained useful information by observing specific construction projects in the Fall of 1988. During these observations, I talked to individual workers and had specific questions answered.

Originally, the manual was to include sections on carpentry math and preparation for small projects. Later, I decided to scale back the project and concentrate on the important tools and materials. Furthermore, the project was simplified by creating smaller units (lessons) out of five large units. In the early stages the activities were varied and did not follow a logical progression. Later, I created a sequence of repeated activities for each unit. The grammar component was developed further in the later versions to include a clearer presentation of the structure. Some of the activities of the first draft such as reading passages and supplemental activities were deleted. A number of the activities in Exercise F were taken from the supplemental activities of the first draft. Finally the teacher suggestions were removed from each individual unit and placed at the beginning of the manual in the introduction.

Field Testing

Lessons for *Pre-Vocational Carpentry for ESL Learners* were tested at Artery Homes Construction Company. All the students were El Salvadoran males employed by Artery Homes. Prior to field-testing, students had received 20 hours of VESL instruction. Students had no structural English classes before working for the company. The students worked approximately 50 hours per week and had 4 hours of VESL instruction per week. Results of the field test indicated that portions of the text were too advanced for the indicated level. In particular, the text definitions in the presentation of the tools and materials were not clearly understood. Exercise E containing the dialogue was somewhat ambiguous. In general, however, the material was well received by the students and the objectives for learning the tools and materials were met.

As a result, the target level of the lessons was adjusted from high intermediate to advanced ESL students. It was found that the students should be given a pre-test to assess the appropriate level. Also, some of the terminology was simplified so that the students could understand the material more clearly. Illustrations were further defined and more space was added between drawings. In addition, more explicit directions were provided for the learning activities.

Lessons were post-tested later with the same group of students at Artery Homes Construction Company with the modifications made in the text. The VESL instructor noted improvement in the clarity of the manual and found the material was more easily grasped by her students then during the initial field-testing. The students' evaluations showed that the material was useful and necessary for improved communication in their work. Thus, it is not surprising that the students' motivation for learning the material was very high. The VESL instructor also found the text to be very helpful, since she herself was struggling to find appropriate material for the class. Overall, *Pre-Vocational Carpentry for ESL Learners* has proven to be a valuable tool for aiding these students in understanding and communicating language in the carpentry workplace.

Underlying Learning Principles

The course content is predicated on the belief that students are motivated when they have a goal or purpose in learning the material -- especially the possibility of employment. Before presenting the material in each chapter, it is assumed that the teacher will draw on the knowledge that the students already have about the material. Students learn more readily when they are actively involved in the learning process. Thus, certain practice activities allow students to share their knowledge of the language. Pairwork and/or group work is strongly encouraged. Language is also assimilated more effectively when students can find meaning in the material and directly apply it. Thus, the activities focus on practical application. Illustrations, realia, and role plays will further enable students to make associations between concepts and the target language.

Content and Organization

Main Content:

The manual has five chapters covering hand tools, power tools, fasteners, sandpaper, and lumber. Each chapter has three lessons containing key vocabulary, a grammatical focus, and exercises for learning the vocabulary and structure. The vocabulary is implemented in all the exercises and the exercises reinforce preceding material. A glossary

of all the bold faced words is included at the end of the manual.

The material for this work was determined after reviewing carpentry books, talking with tradesmen in the field, observing construction projects and working closely with a vocational education teacher. Identifying the essential material for a beginning carpenter to function in an entry level position was the criteria for developing the project. From the beginning, it was clear that tool recognition and tool use was the primary objective. Familiarity with the hardware and lumber was secondary. For this reason the chapter covering the basic handtools was placed before the sections on harware and lumber.

The content within the five chapters was also based on information from books and discussions with various carpenters. In addition, it was necessary to consider how many vocabulary items were introduced at one time and to categorize the information into manageable lessons. The content in Chapter I (Hand Tools) was ordered by putting the tools for starting a specific project first; and followed by the next set of tools that would be required to complete the task. Some tools that are used for related tasks were grouped together -- such as the tools for drilling and boring.

In the second chapter of Power Tools, the tools that were most commonly used on the job were introduced first. The tools for shaping and shaving and stationary tools preceeded the cutting, boring and drilling tools because they were less important. Since there were fewer vocabulary items in Chapter 2, a third lesson was developed for understanding the verbs associated with these tools in Lessons 1 and 2. The content in Chapter 3 was likewise arranged by placing the more common types of hardware before the hardware that was less frequently used.

The material for the chapter on sandpaper was developed after visiting a hardware store and consulting books and professionals. This information is not highly important, but is useful for enabling the students to classify and compare material with the use of a scale. It is sequenced by presenting the basic parts of sandpaper first and then introducing more detailed and technical information later. Similarly, the content from the lumber chapter is advanced material that required students to classify and compare items. It was chosen to give students a general background of types of wood. The lesson was created with the

notion that students would have enough knowledge of wood to buy lumber for simple projects. The content is again ordered by introducing the topic of wood and placing the more detailed information afterwards.

Structures and Communicative Functions:

Although the structures are presented before the communicative functions in the lessons, they were designated after the communicative functions were developed. After analyzing the functions, structures were taken that were found useful for achieving communicative competence in carpentry work and applicable for everyday English. The conversations and functions were based on the need to provide practice for students to use the vocabulary and knowledge of tools and materials in a practical situation. Some of the dialogues were observations recorded from actual carpentry work sites. Others were deduced from understanding the possible contexts and network of people a carpenter may interact with.

In Lesson 1 of Chapter 1 (Hand Tools), the main objective is for the students to explain the purpose of the tools. The function explaining is found in the dialogue and the infinitive verb is drawn out. Similarly, in Lesson 1 of Chapter 2 (Power Tools), the focus is explaining the tool use and the verb + infinitive + object is taken from the dialogue.

Lesson 2 of Hand Tools allows students to practice giving and receiving directions. This function is necessary in any kind of work. Logically prepositions of location were extracted for the structure focus. The function explaining is presented again in Lesson 3, but the focus is the action of the person using the tools with the present continuous tense.

In Lesson 2 of Power Tools, the structure "adverbs of quantity" was isolated from the function "to assess progress." The third lesson like Lesson 1 focuses on explaining tool use, this time using the simple future tense.

Overall, the functions and structures in Chapter 3 enable the students to practice expressing needs and describing amounts. The structure adverb of quantity is drawn from the dialogues of Lessons 1 and 2. Likewise, in the third lesson of Chapter 3, students are given additional practice expressing needs, but the adverb of degree is highlighted instead

of the adverb of quantity.

Attention to the functions specifying and describing is given in Lesson 2 and 3 of Sandpaper (Chapter 4). Here, the students are to distinguish the appropriate sandpaper for the job. The comparative adjectives are logically extracted for the structure focus. In lesson 1, the structure present perfect was taken arbitrarily, as it does not particularly relate to the function giving information.

In the final Chapter on Lumber Wood (Chapter 5), the functions stating preferences and giving advice are useful for allowing students to practice making choices. The modals of preference and strong suggestion were therefore chosen to be the structure focuses.

Learning Activities:

Each lesson contains six activities for learning the material. The activities were designed so that the students would first learn to recognize the tools and state their purpose for using them. Secondly, the activities were made to give the students practice using the vocabulary to communicate in a specific situation. Finally, the students receive practice performing basic functions in everyday life through activities.

Since the key vocabulary is implemented in every activity, the material is constantly reinforced as the new vocabulary is introduced. A logical sequence is followed for understanding the words. Exercieses A, B, and C enable the students to master identifying the tools and materials through simple repetition. The first exercise introduces the students to the key vocabulary by giving them immediate oral practice identifying the tools and materials. The next exercise provides further recognition through reading and writing the tool names and materials. Exercise C again reinforces all the key vocabulary by placing it in context in one line of the dialogue in Exercise E. This is a transitional exercise that prepares students for the communicative aspect.

A natural break occurs after Exercise C and this is where the structure is presented. The structure has been taken from the dialogue and is relevant to the communicative function. The purpose of Exercise D is to give students practice using the structure before introducing the dialogue. Exercise D integrates the important vocabulary with the

structure, thus students receive more practice learning the vocabulary. The dialogue in Exercise E was chosen to give students practice using the vocabulary in meaningful context. Moreover, the students understand the purpose for using the tools and materials.

The purpose of Exercise F is two-fold. In some cases the activities are a review of the important vocabulary. In other cases, students must use their understanding of both the vocabulary and the communicative function and apply it to a particular situation. In Chapter 1, all three games serve to review the tools and practice tool recognition.

In Lesson 1 of Chapter 2 (Power Tools), Exercise F reviews the students knowledge of tool use. In the third lesson, the suggested field trip reviews all the tools and gives students practice classifying tools according to their use.

The game in Lesson 1 of Chapter 3 (Fasteners) serves to review the nail sizes. In the second lesson, the game gives students practice classifying and describing all the hardware. The role-play in Lesson 3 enables the students to practice ordering materials and describing and specifying the particular needs. Lesson 1 of Chapter 4 (Sandpaper) also allows students to describe and classify material. The game in Lesson 2 reviews the understanding of what the materials are used for. Likewise, in Lesson 3 the game provides more practice classifying sandpaper and reviews the scale for measuring sandpaper grit.

Exercise F in Lesson 1 of Chapter 5 (Lumber Wood) reviews the words for describing lumberwood characteristics. The field trip in Lesson 2 allows students to use knowledge of lumberwood defects to select wood. Finally, the roleplay of Exercise F in Lesson 3 is a follow up for Exercise E. The students review lumber sizes and practice giving and receiving advice.

Lesson Organization

1. Overview page: This states the objectives for the lesson and describes the vocabulary and structure presented.
2. Key Vocabulary: Illustrations of the tools and materials and their definitions are presented.
3. Exercise A: The first exercise provides students practice identifying the tools and

materials.

4. Exercise B: This exercise gives further practice identifying the tools and materials.
5. Exercise C: This is a substitution drill that reinforces the key vocabulary and prepares the students for learning the structure.
6. Structure Focus: The target grammar focus and the rules for using it are given.
7. Exercise D: This is a written grammar exercise.
8. Exercise E: A dialogue with the structure is presented.
9. Exercise F: Games, roleplays and two field experiences synthesize the material in the lesson.

How To Use The Lessons

The suggested time for teaching one chapter is 12 hours. Each Lesson may be divided into two segments approximately two hours long. In the first segment, the students should cover the terminology, identification exercises and the substitution drill. The structure, the dialogue and the game should be in the second segment.

1. Before introducing the material in the chapter, explore what the students already know drawing from their own experiences and using pictures and/or live realia to prompt responses.
2. Go over the key vocabulary and have the students pronounce the terms after you.
3. Read the definitions of the tools. (Teacher may read while students listen or students can take turns reading) Add any explanation of your own to aid in understanding the terms.
4. After students have a good understanding of the definitions, have them begin the exercises.
5. Carefully monitor the students as they practice exercise A.
6. After modeling exercise C, let the students initiate the drill. Perhaps assign one or two students to prompt the responses.
7. When presenting the structure, give a thorough demonstration followed by oral practice. After students have had sufficient oral practice, have them do exercise D.

8. Model exercise E a few times for the students. Practice using choral repetition and then divide into pairs.
9. Carefully go over the directions for exercise F and monitor the students as they play or perform.

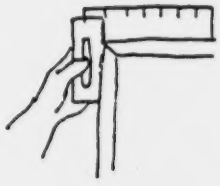
Pre-Vocational Carpentry for ESL Learners should be a base for orienting students to carpentry. Teachers are encouraged to expand and adapt the material to their particular needs.

CHAPTER I

HAND TOOLS

Lesson 1

MARKING AND MEASURING TOOLS



Overview

Carpentry work must be very accurate. In order to keep the wood straight and cut it at just the right place, a carpenter must use special tools for marking and measuring. In this lesson, you will learn the names of 11 tools commonly used for marking and measuring, and you will practice making and responding to simple requests for the tools.

Objectives

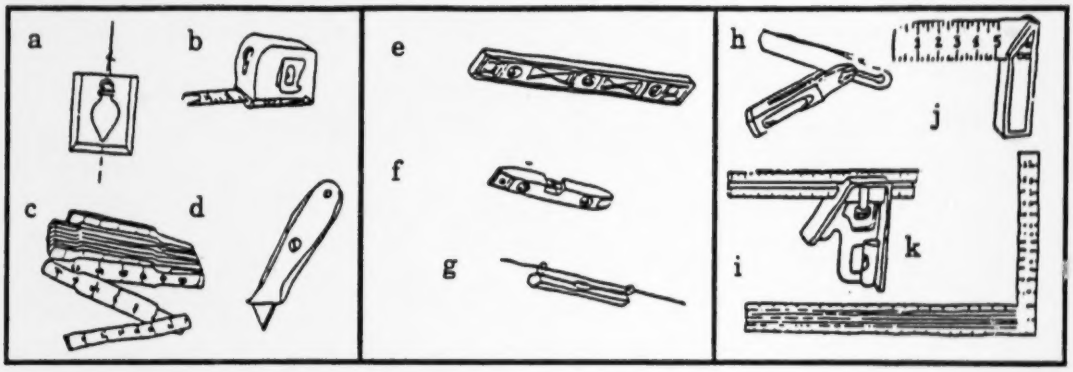
- to identify 11 tools for measuring and marking and to demonstrate an understanding of their use
- to request the need for tools and to explain the reasons for using them
- to practice making requests using the verb + infinitive structure

Language Focus

Tools		Carpentry Terms
plumb bob and plumb line	t-bevel	angel
carpenter's level	utility knife	trim
torpedo level	folding ruler	vertical
try square	combination square	foundation
measuring tape	framing square	exact
		horizontal
		mark
		hang
		level

Everyday Expressions		
I need to (infinitive)	What's this?	It's a _____.
Pass me the _____	What for?	I need to _____.

Marking and Measuring Tools



a. The plumb bob and the plumb line are used for finding the vertical line.

b. The measuring tape is used for measuring the length of the wood and for making **exact** cuts.

c. The folding ruler is used by finish carpenters for measuring **trim** work. It is shorter than a measuring tape, but easier to work with in small corners.

d. The utility knife has many purposes, but is mainly used for cutting string for plum line and marking wood.

e. The carpenter's level is used for checking **vertical** and **horizontal** surfaces.

f. The torpedo level is smaller than the carpenter's level and is also used for check ing the **vertical** and **horizontal** surfaces.

g. The line level is only three inches long and has hooks at each end so it can be hung on a string. It is good for longer surfaces and is useful for **foundation** work.

h. The T-bevel is used to **mark** the angle and then move the marking to another piece of wood.

i. The combination square has three uses. It can check for 90 and 45 degree angles, it can check horizontal levels, and measure like a ruler.

j. The try square is used to check the wood for **right angles**.

k. The framing square is larger than the combination square and **try square** and can measure any angle as well as be used like a ruler.

Exercises

A. Identification of Tools

The teacher gives students flashcards with pictures of the measuring and marking tools. The students then work in pairs, taking turns asking and answering questions to identify the tools, using this pattern:

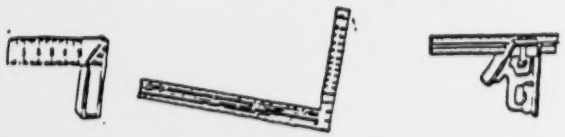
What's this? It's a _____.

B. Picturing Circling

Circle the picture of the tool that is the correct answer to each question.

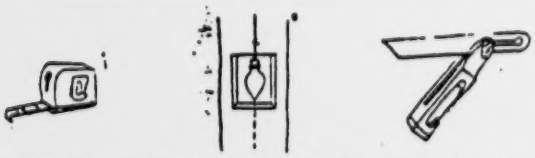
1. Which tool is the carpenter's level?

2. Which tool is the combination square?

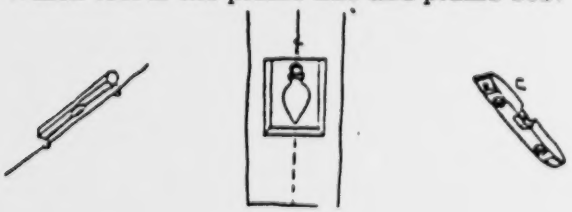


3. Which tool is the folding ruler?

4. Which tool is the T-bevel?



5. Which tool is the plumb line and plumb bob?



Exercises

C. Substitutions

Repeat the sentences that your teacher says and substitute the name of the tool in the sentence.

Pass me the folding ruler.
line level
carpenter's level
torpedo level
framing square
combination square
utility knife
T-bevel
try square
plumb bob and plumb line

Repeat the above sentence pattern, substituting the following words for pass:

hand
give
get
bring

Structure Focus

Study these sentences:

I need to mark the wood.
Jose needs to check the surface.
We need to measure the length of this piece of wood.

Here are some simple rules for this structure:

1. The infinitive is the basic form of the verb.
2. The infinitive is marked by the word "to" + the simple verb ("to mark").
3. The infinitive follows certain verbs, like need, learn, plan, try, want, hope.

Marking and Measuring Tools

Exercises

D. Sentences Rewrites

1. Frank needs (measure) the height of the window.
   Frank needs to measure the height of the window.

2. Marco wants (check) the horizontal surface with carpenter's level.

3. Silvia plans (use) the plumb bob and plumb line for finding the vertical of the wall.

4. Mohkim wants (hang) the line level for the foundation of the house.

5. Boris needs (mark) a 45 degree angle on the wood with framing square.

6. Cesar needs (move) the markings with the T-bevel.

7. Chin needs (find) the width of the door with the folding ruler.

8. Hank plans (cut) the string for plumb bob with the utility knife.

Exercises

E. Dialogue

Practice this model using the pictures of the tools below.

Tran: Please pass me the measuring tape.

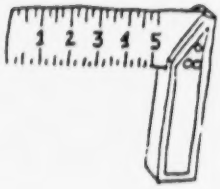
Jorge: What for ?

Tran: I need to find the length of this piece of wood

1.

to check the foundation of this project

2.

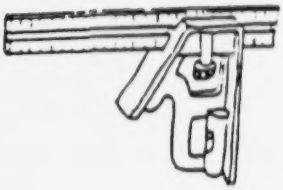


to make sure corners form a right angle

3.

to find the vertical for this wall

4.

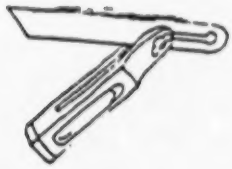


to mark the wood at 45 degree angle

5.

to see if the surface is even

6.



to move the marking to another piece of wood

Exercises

F. Game - Concentration

1. Teacher gives students cards with pictures of measuring and marking tools and the corresponding name.
2. Students divide into groups of 4-5 and lay all the cards face down.
3. Students take turns, turning two cards up in an attempt to find a tool picture and its corresponding name. (Note: No more than two cards are turned up and the other students must be able to see these cards!)
4. If a player has found a match, he/she keeps the cards and receives another turn.
5. If the cards do not match, the next player in line goes.
6. After all the matches have been found, players count up their matches. The player with the most matches wins!

Lesson 2

DRILLING/BORING and POUNDING/DRIVING and SHAPING/SHAVING TOOLS

Overview

Carpenters need tools to make holes and to force **hardware** into the wood. They also need tools that will smooth the wood before finishing it. Lesson 2 describes the tools needed to do these jobs. After learning the names of these 10 tools; you will learn to state where tools are located.

Objectives

- to identify four tools for drilling and boring and demonstrate an understanding of their use
- to identify two tools for pounding and driving and demonstrate an understanding of their use
- to identify four tools for shaping and shaving and demonstrate an understanding of their use
- to give and receive directions using prepositions of location

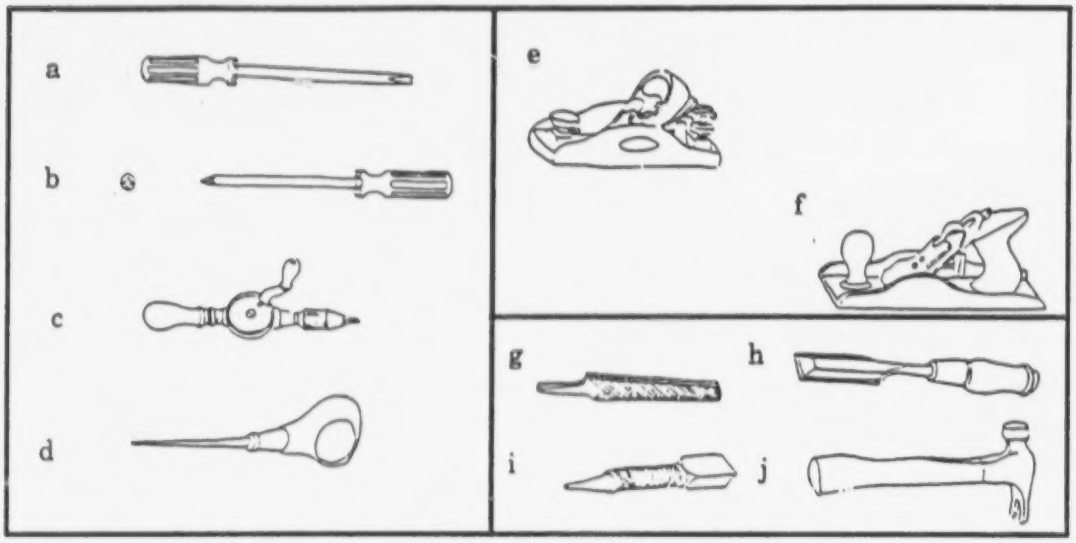
Language Focus

Tools		Carpentry Terms
flathead screwdriver	jackplane	driving
phillipshead screwdriver	blockplane	boring
hand drill	file	drilling
scratch awl	hammer	shaping
chisel	nailset	smoothing

Everyday Expressions		
What's this?	Do you have the _____?	It's over there.
This is a _____.	Where's the _____?	I don't see it.

Drilling/Boring and Pounding/Driving and Shaping/Shaving

Key Vocabulary



a. The flathead screwdriver is used for driving screws into the wood.

b. The phillipshead screwdriver is used for driving screws with a crosshead into the wood.

c. The hand drill is used for making holes in the wood before putting in a screw.

d. The scratch awl is used for making starting holes for small screws.

e. The block plane is only six inches long and can be used with one hand for **smoothing** smaller areas on the wood.

f. The jackplane is used to remove wood in very thin pieces to make the wood level.

g. The file is used to make the wood **smooth.**

h. The chisel is used for cutting and **shaping** the wood.

i. The nailset is used to **drive** the nail below the surface of the wood.

j. The curved claw hammer is used for driving nails into the wood.

Drilling/Boring and Pounding/Driving and Shaping/Shaving Tools

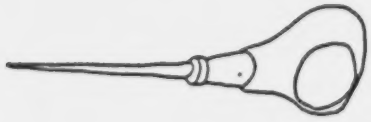
Exercises

A. Identification of Tools
The teacher gives students flashcards with pictures of drilling,boring, pounding, driving, and shaping and shaving tools. The students then work in pairs, taking turns asking and answering questions to identify tools using this pattern:

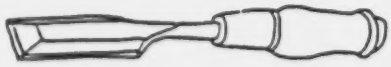
What's this? It's a _____.

B. Fill in the Blank
Write the name of the tool on the line below the picture using the words listed at the bottom.

1.

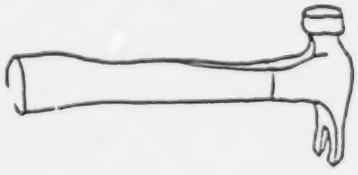


2.

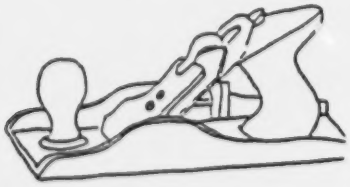


3.

4.



5.



6.

curved claw hammer
Jackplane
phillipshead screwdriver

scratch awl
chisel
file

Exercises

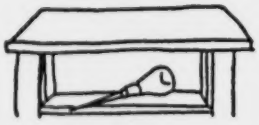
C. Substitutions
Repeat the sentences that your teacher says and substitute the name of the tool in the sentence.

Do you have the phillipshead screwdriver ?
scratch awl
hand drill
jackplane
file
flatead screwdriver
chisel
blockplane
hammer
nailset

Structure Focus

Study the pictures and the following sentences with prepositions of position:

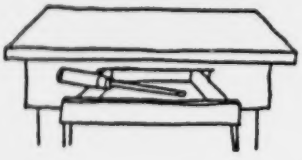
The screwdriver is on the table.



The scratch awl is under the table.

The screwdriver is by the wall.

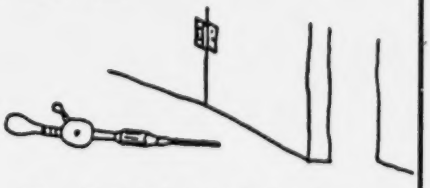
The scratch awl is above the cabinet.



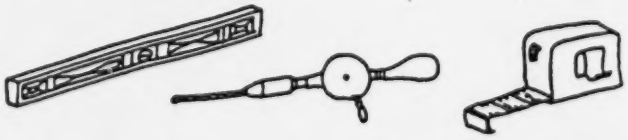
The screwdriver is in the drawer.

The scratch awl is against the wall.

The drill is in front of the box.



The drill is behind the door.

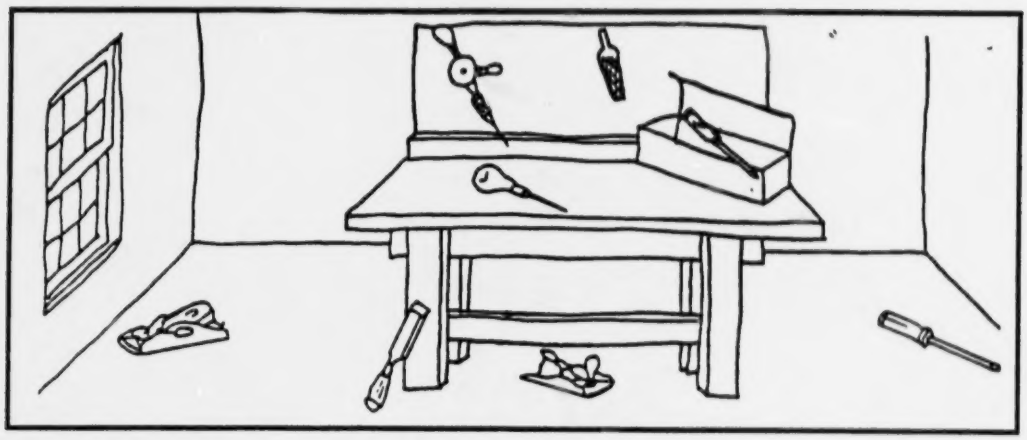


The drill is between the measuring tape and the carpenter's level.

Drilling/Boring and Shaping/Shaving and Pounding/Driving Tools

Exercises

D. Tool Location
Look at the picture below and write the answer to the question.



1. Where's the scratch awl? *The scratch awl is on the table.*

2. Where's the jack plane?_____.

3. Where's the file?_____.

4. Where's the hand drill?_____.

5. Where's the phillipshead screwdriver?_____.

6. Where's the flathead screwdriver?_____.

7. Where's the chisel?_____.

8. Where's the blockplane?_____.

Exercises

E. Dialogue
Practice this model using the pictures below.

Mohkim: Do you have the chisel?

Juan: It's over there by the window.

Mohkim: I don't see it.

Juan: It's on the table.

1.

under the ladder

2.

on the newspaper

3.

by the shelf

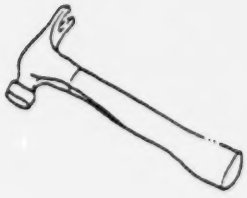
4.

behind the workbench

5.

in front of the framing square

6.



between the screwdriver and the chisel

Exercises

F. Game -GO FISH

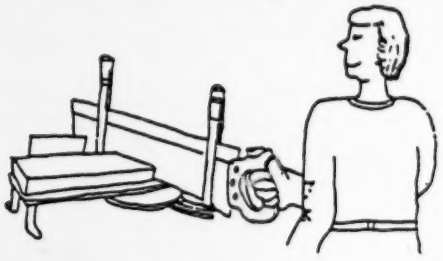
1. Divide into groups of 4-5.
2. The teacher gives students a set a of cards with pictures of tools from lesson 2.
3. The dealer gives each student five cards.
4. The person to the left of the dealer asks one person in the group for cards already in his hand. The object is to get four of one kind (ie four screwdrivers, four hand drills)
5. If this player has the cards, he must give them to the player who asked for them.
6. A player continues to ask for tools until he is turned down.
7. If another player does not have the cards, he responds with the command "GO FISH!"
8. When told to GO FISH , the player draws a card from the pile in the middle and the next player takes his turn.
9. The game is over when a player gets four of one kind of tool.

Example:

Student A:	Do you have a chisel?
Student B:	No, I don't. Go Fish!
Student C:	Do you have a phillipshead screwdriver?
Student D:	Yes, I do.
Student C:	How many do you have?
Student D:	I have 1,2,3 phillipshead screwdrivers.
Student C:	May I have them please?
Student D:	Here you go. (Student C having received cards, continues to ask for more!)
Student C:	Thank you.
Student D:	You're welcome.

Lesson 3

CUTTING/TIGHTENING & REMOVING TOOLS



Overview

In this last lesson on hand tools you will learn five types of saws used for cutting wood and three tools for tightening and removing hardware. You will also learn to describe what you are doing with the tools and how to politely ask to receive tools from each other.

Objectives

- to identify five saws for cutting wood and demonstrate an understanding of their use
- to identify three tools for tightening and removing and demonstrate an understanding of their use
- to express action in the present continuous tense

Language Focus

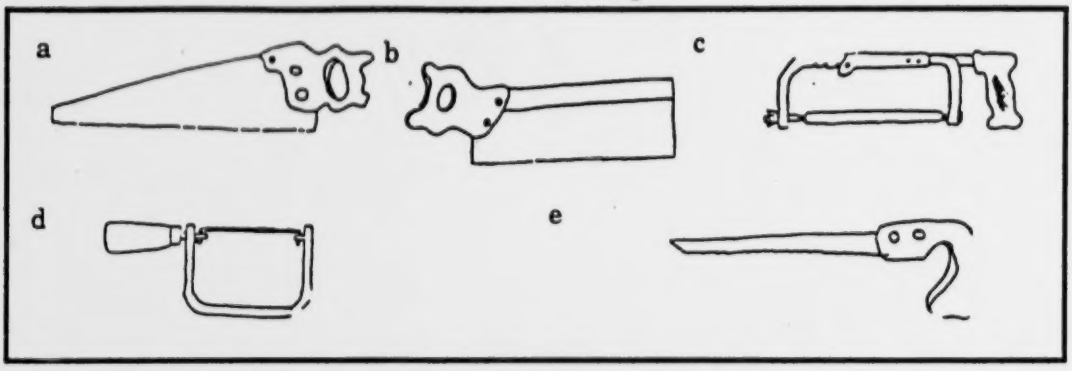
Tools	Carpentry Related Terms
coping saw compass saw crosscut handsaw backsaw hacksaw channel lock pliers slip joint pliers adjustable wrench	angle slicing miterbox drive gripping tightening removing curves surfaces

Everyday Language	
What's this? It's a _____. Where's the _____?	What are you doing? I'm _____ing..... Let me have it when you're done.

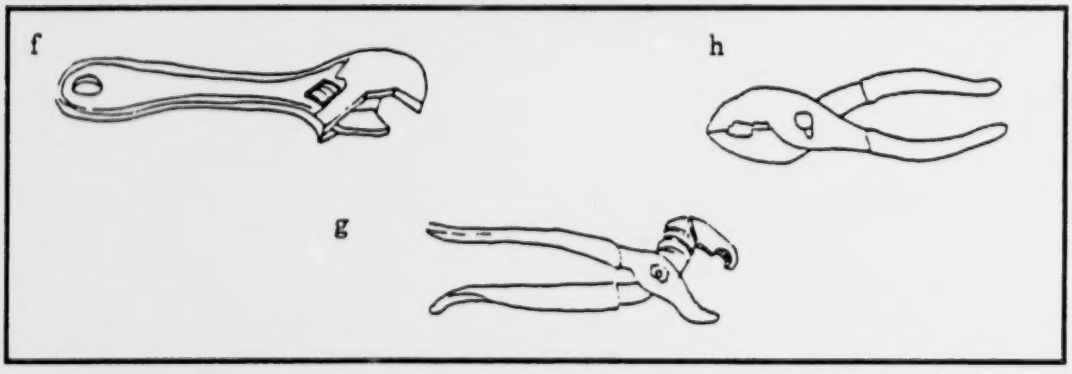
Cutting, Tightening and Removing Tools

Key Vocabulary

Tools for Cutting



Tightening and Removing Tools



a. The cross cut handsaw is used for **slicing** the wood. These saws usually have 7-12 teeth per inch.

b. The backsaw is used with a **miterbox** to cut wood at an angle.

c. The hacksaw is used for cutting metal tubing or nails and screws.

d. The coping saw is used for cutting circles and **curves** in the wood.

e. The compass saw is also used for cutting **curves** in the wood.

f. The adjustable wrench is used for **tightening** or **removing** nuts and bolts.

g. The channel lock pliers are used for **gripping** material and can be made bigger or smaller to fit the object.

h. The slip joint pliers are used for **gripping** material but have only two positions.

Exercises

A. Identification Tools
The teacher gives students flashcards with pictures of cutting, tightening and removing tools. The students then work in pairs, taking turns asking and answering questions to identify the tools, using this pattern:

What's this? It's a _____.

B. Fill in the Blank
Write the toolname in the blank.

1.

_____

2.

_____

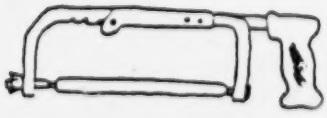
3.

_____

4.

_____

5.



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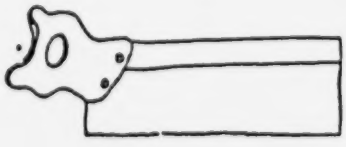
6.

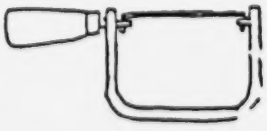


_____

7.

_____

8.



_____

Exercises

C. Substitution Drill

Repeat the sentences that your teacher says and substitute the name of the tool in the sentence.

Where's the coping saw?
compass saw
hacksaw
backsaw
adjustable wrench
coping saw
slip joint pliers
cross-cut hand saw
channel lock pliers

Structure Focus

I am _____ing
You are _____ing
He/she is_____ing
We are _____ing.
They are _____ing.

Study these examples:

Hank is cutting the wood at an angle with a backsaw and miterbox.

Maria is pounding a nail into the wood with the hammer.

Juan is squaring the wood with the try square.

1. The present continuous is formed by using the present form of the verb to be and the present participle (the ing form) of the verb.
2. The present continuous usually expresses action in the present.
3. The present continuous may also refer to time in the future.
   Example: Alfredo is cutting the wood tomorrow.

Exercises

D. Fill in the Blank

Use the present continuous form of the verb in parentheses.

1. (cut) Felix *is cutting* the wood with the crosscut handsaw.

2. (pound) Mario _____ the nail into the wood with the hammer.

3. (square) Xavier _____ the wood with a try square.

4. (mark) Sam _____ the wood with a utility knife.

5. (tighten) Alex _____ the nuts with an adjustable wrench.

6. (smooth) Flavia _____ the wood with the Jackplane.

7. (measure) Lisa _____ the length of the window with the measuring tape.

8. (use) Fred _____ the nailset to help drive the nail into the wood.

Cutting/Tightening/Removing Tools

Exercises

E. Dialogue

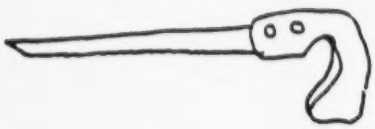
Jim: What are you doing?

Oscar: I'm pounding a nail into the wood with the hammer.

Jim: Let me have the hammer, when you're done.

Oscar: Okay, I will.

1.

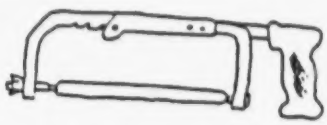


cutting a circle for the window.

2.

cutting a 6 inch piece of wood

3.



cutting a metal pipe

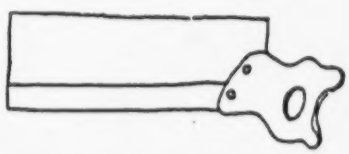
4.

tightening the nut

5.

removing a nail

6.



cutting the wood at a 45 degree angle

Exercises

F. BINGO

1. The teacher gives students a card with assorted pictures of all the handtools and markers.

2. The teacher then calls out the names of handtools. If students have a handtool on their card, he/she places a marker on it.

3. The first student to get four markers in a row, column, or diagonally across yells out BINGO.

4. The teacher checks the tools that were called against students tools marked on the card.

CHAPTER II

POWER TOOLS

Lesson 1

CUTTING, BORING, AND DRILLING TOOLS

Overview

More carpenters are using power tools instead of handtools. Power tools allow carpenters to do their work more quickly and still produce quality work. In this lesson you will learn the power tools for cutting, drilling, and boring. You will also practice explaining the reasons for using these tools.

Objectives

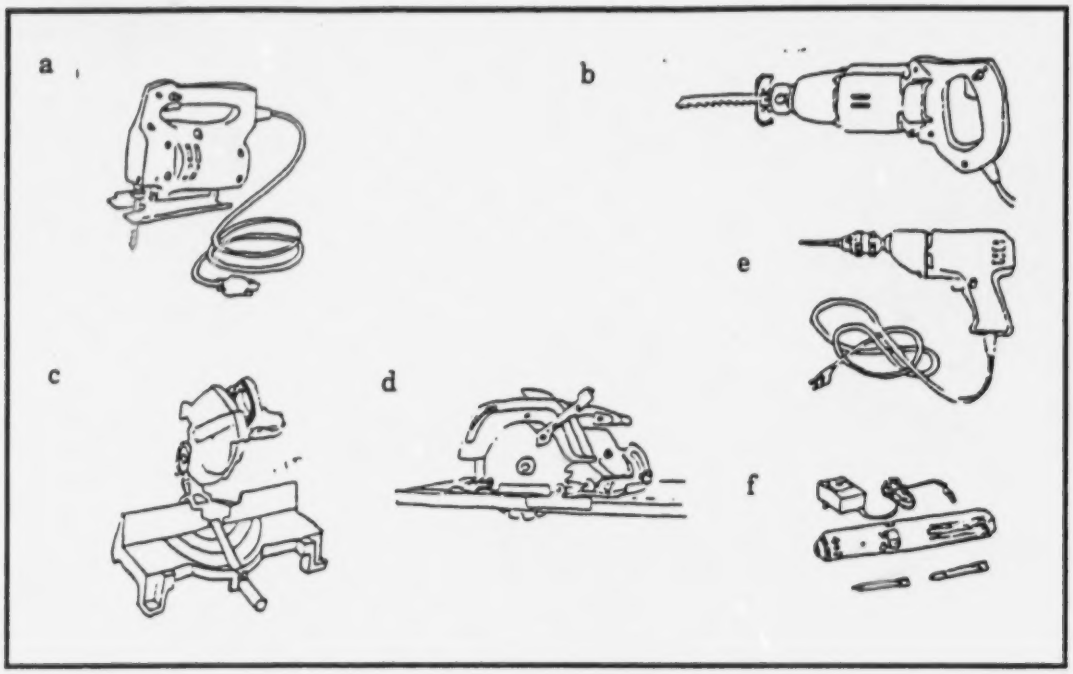
- to identify four power tools used for cutting wood and demonstrate an understanding of their use
- to identify two power tools for boring and drilling holes and demonstrate an understanding of their use
- to ask WH questions in the present continuous tense
- to recognize secondary names for power tools used in the field.
- to give explanations using the verb + object + infinitive structure.

Language Focus

Tools		Carpentry Terms	
circular saw	jig saw	rip cuts	wallboard
saber saw	saw zall	cross cuts	finishing
reciprocating saw	skill saw	beveled cuts	beams
miter saw	saber saw	narrow	vent
power drill		accurate	
		cabinetry	
Everyday Expressions			
What's this?		This is a _____.	
What are you doing now?		I'm using the _____ now.	
		I'm using the ___ to	

Cutting, Boring, and Drilling Tools

Key Vocabulary



a. The jigsaw (sabersaw) is used for cutting curves and is smaller than the circular saw.

b. The reciprocating saw (sawzall) is a multi-purpose saw, but it is particularly useful for cutting in small **narrow** corners and for cutting doors and windows.

c. The miter saw is useful for making very accurate cuts for any angle.

d. The circular saw (skillsaw) is the most widely used saw and can cut wood at almost any angle. It can also do **rip-cuts, cross cuts,** and **beveled cuts.**

e. The power drill is used for making holes in the wood and is useful for **cabinet work** and **finishing** doors and windows.

f. The electric screwdriver is used to drive screws and nuts into wood. It is helpful for putting up dry **wallboard.**

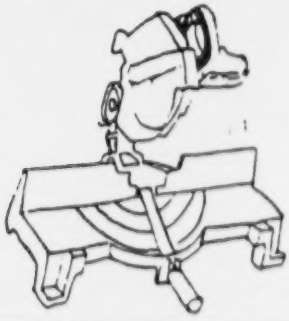
Exercises

A. Identification of Tools
The teacher gives students flashcards with pictures of the measuring and marking tools. The students then work in pairs, taking turns asking and answering questions to identify the tools, using this pattern:

What's this _____? This is a _____.

B. Fill in the Blank
Write the name of the tool on the line.

1.



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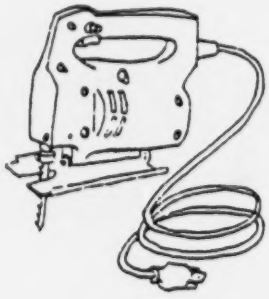
2.



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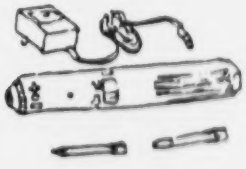
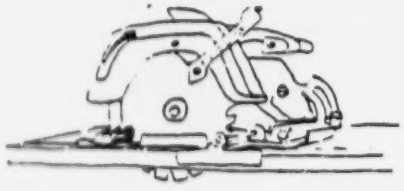
3.



_____

4.



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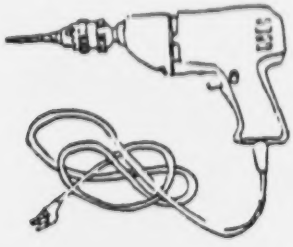
5.



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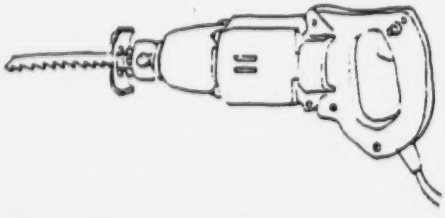
6.



_____

circular saw
power drill
miter saw
saber saw
electric screwdriver
sawzall

Exercises

C. Substitutions
Repeat the sentences that your teacher says and substitute the name of the tool in the sentence.

I'm using the mitersaw right now.
circular saw
electric drill
jig saw
electric screw driver
skill saw
sawzall
reciprocating saw
saber saw

Variation: Divide into 2 groups

Group 1: What are you doing now?

Group 2: I'm using the ____now.

Language Focus

Study these sentences:

Mohkim is using the skillsaw to cut the 2 x 4's.
Mohkim is using it to cut the 2 x 4's.

Allen is using the power drill to bore holes in the wood.
Allen is using it to bore holes in the wood.

Eduardo is using the mitersaw to make very accurate cuts.
Eduardo is using the it to make very accurate cuts.

Here are some simple rules for this structure:

1. Objects must follow some verbs before the infinitive. V + O + I
Xavier uses the sawzall to cut the window.

2. The pronoun it may be substituted for the noun serving as the direct object.

3. The infinitive has the same form for tenses and persons.

D. Sentence Rewrites

Circle the object in the sentences below and rewrite the sentences substituting the pronoun it.

1. Saed is using the reciprocating saw to cut the door frame.

   Saed is using it to cut the door frame.

2. Oscar is using the circular saw to cut beams for the roof.

3. Jose is using the power drill to make holes for the door knob.

4. Abdul is using the skillsaw to cut studs for the framing work.

5. Marco is using the electric screwdriver to insert screws in the wall.

6. Phillip is using the sabersaw to cut an arch over the window.

7. Rex is using the mitersaw to cut siding for the house.

8. Antonio is using the jigsaw to cut a hole for the drain pipe.

9. Arthur is using the sawzall to cut an opening for the mail slot in the door.

Exercises

E. Dialogue

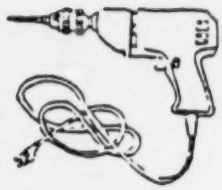
Filepe: What are you doing now?

Vu: I'm using the mitersaw right now.

Filepe: What for?

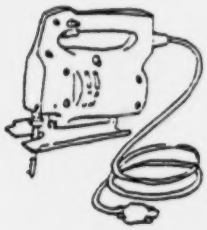
Vu: I'm using it to cut joists for the floor.

1.



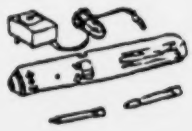
to drill a hole
for the screw.

2.



to cut a circle for
the skylight.

3.

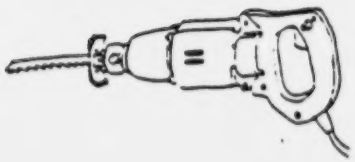


to drive a screw into
the frame for the door

4.

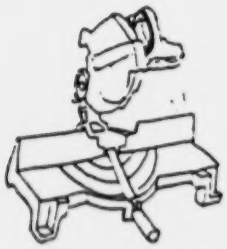
to cut beams for
the fence

5.



to cut a square
for a vent

6.

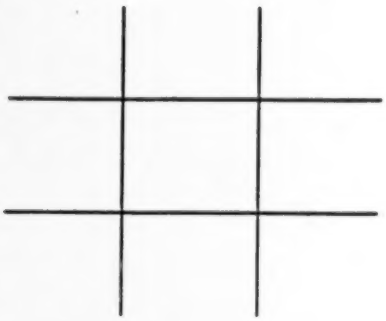


to cut wood
for the table

Exercises

F. Game- Tic - Tac - Tool

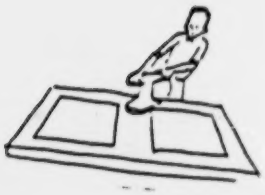
Example:



1. Students divide into two teams.
2. One team chooses the marker X, the other chooses the marker O.
3. The first team chooses a square with a toolname. They must state what the tool is used for and orally use it in a sentence. If the definition and the sentence are correct, the team may place the X or O in the square.
4. The second team chooses a square and likewise gives a definition and sentence for the tool.
5. Both teams try to get three markers (x's or o's) in a row, column or diagonally across.

Lesson 2

SHAPING/SHAVING AND STATIONARY TOOLS



Overview

In this lesson you will learn the tools used for shaping and shaving wood. These tools remove wood in small pieces to prepare the wood for finishing. You will also learn about large stationary tools. Because stationary tools are so heavy, they must stay in one place. After you learn these tools, you will practice responding to questions about the work.

Objectives

- to identify four tools for shaping and shaving and understand their use in the field.
- to identify three stationary tools and identify their use in the field.
- to respond to questions with the indefinite pronoun who
- to make assessments about completed work using the adverb of quantity

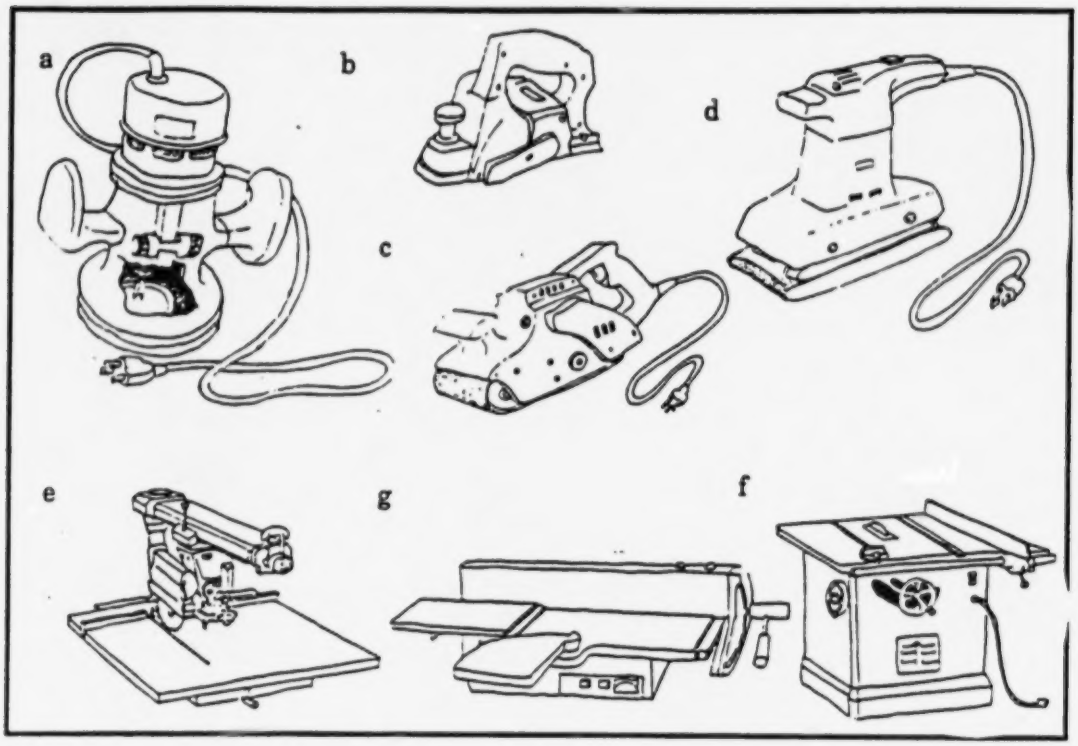
Language Focus

Tools	Carpentry Terms
electric router electric planer belt sander orbital sander radial arm saw table saw	moldings trim edges grain plywood finer jointer multi-purpose

Everyday Expressions	
What's this called?	It's called a _____.
Who's using the _____?	
Is he almost finished?	No he's got a lot left to do.

Shaping/Shaving and Stationary Tools

Key Vocabulary



a. The electric router works like a drill, but is used for **shaping** wood for **moldings** and furniture.

b. The electric planer is used to **trim** thin pieces of wood for finishing on doors and windows.

c. The belt sander is used for removing the rough **edges of** large pieces of wood and making it smooth. It must move with the grain of the wood.

d. The orbital sander (finishing sander) produces a **finer** finish than the belt sander and can move in all directions.

e. The radial arm is a multi-purpose saw, but is mostly used for cutting up large amounts of wood at one time.

f. The table saw is similar to the radial arm saw, but is particularly useful for cutting large sheets of **plywood.**

g. The jointer is used for joining pieces of wood together by making surfaces even. It is useful for making tables and doors and doing cabinet work.

Exercises

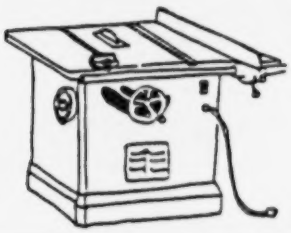
A. Identification of Tools

The teacher gives students flashcards with pictures of the shaping and shaving and stationary tools. The students then work in pairs, taking turns asking and answering questions to identify the tools, using this pattern:

What's this called? This is called a _____.

B. Fill in the Blank

Write the correct toolname under the picture.

1. 

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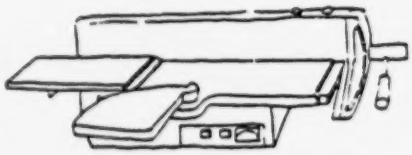
2. 

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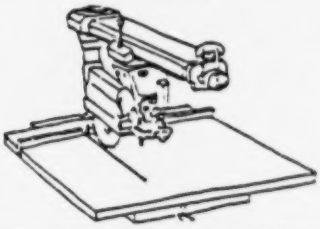
3. 

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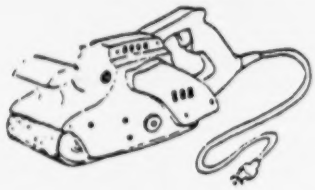
4. 

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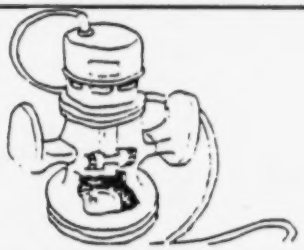
5. 

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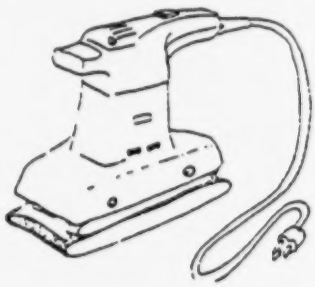
6. 

_____

7.

_____

Exercises

C. Substitution Drill

Repeat the sentences that your teacher says and substitute the name of the tool in the sentence.

Who's using the electric router?
tablesaw
radial arm saw
orbital sander
belt sander
electric router
jointer
electric planer

Structure Focus

Study these sentences:

Juan has a lot of wood left to cut.
Juan has lots of wood left to cut.
Juan has much wood left to cut.

Note: a lot left implies that the work is already in progress and began at some earlier time, but is not completed yet.

1. "A lot" and "lots of" have the same meaning.
2. "A lot" and "lots of" are common substitutes for much and many.
3. "A lot" and "lots of" can be used with both count and non-count nouns.
4. Often the preposition "of" and the direct object are omitted if the direct object is understood by both the speaker and the listener.

   Example: Juan has a lot left to cut.

Exercises

D. Sentence Rewrites
Make sentences using the verb has and " a lot" or "lots of" with the words below.

1. Kim/sanding/to do *Kim has a lot of sanding to do.*

2. Young/ planing/to do _____

3. Zang/ chiseling/ left _____

4. Mitsumi/ drilling/left _____

5. Mai/ wood/left/ cut _____

6. Filipe/trim/ wood _____

7. Max/ finish work/left _____

8. Flavia/wood/to shape _____

9. Felix/wood/to measure _____

10. Oscar/screw/to remove _____

Exercises

E. Dialogue

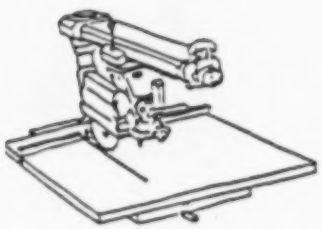
Kang: Who's using the electric planer?

Lee: Jose

Kang: Is he almost finished ?

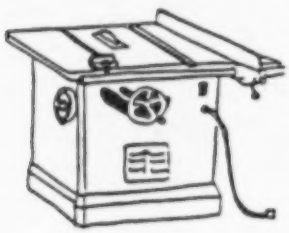
Lee: No, he's got a lot left to do.

1.



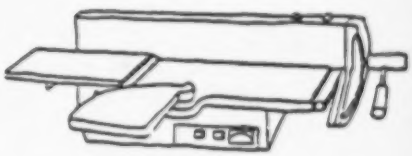
I am

2.



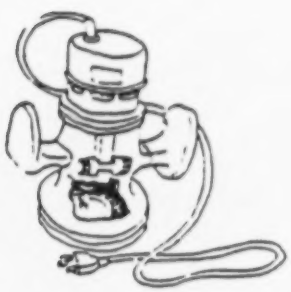
Said

3.



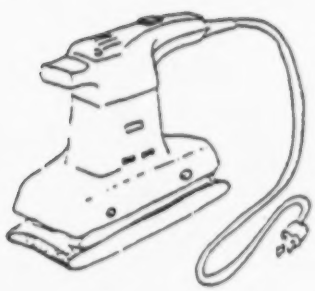
Juan and Carlos

3.



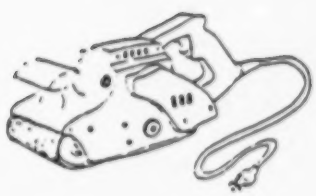
Rodney

4.



Maria

6.



Silvia

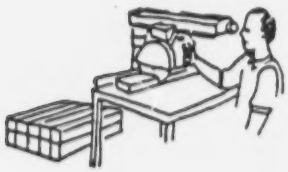
Exercises

F. Game - Play Jeopardy

1. Students divide into teams of 4-5 students.
2. Students choose questions from six categories of tools and the level of difficulty: easy, medium and hard.
3. The team that answers correctly is awarded play money.
4. The game ends after all the questions have been read and answered. The team with the most money wins!

Lesson 3

POWER TOOLS AT WORK



Overview:

Certain verbs are often used regularly with powertools. In this lesson you will learn and use the verbs that accompany the powersaws, electric planers, sanders, screwdrivers, jointer and router. You will also practice discussing what your future plans will be using these verbs.

Objectives:

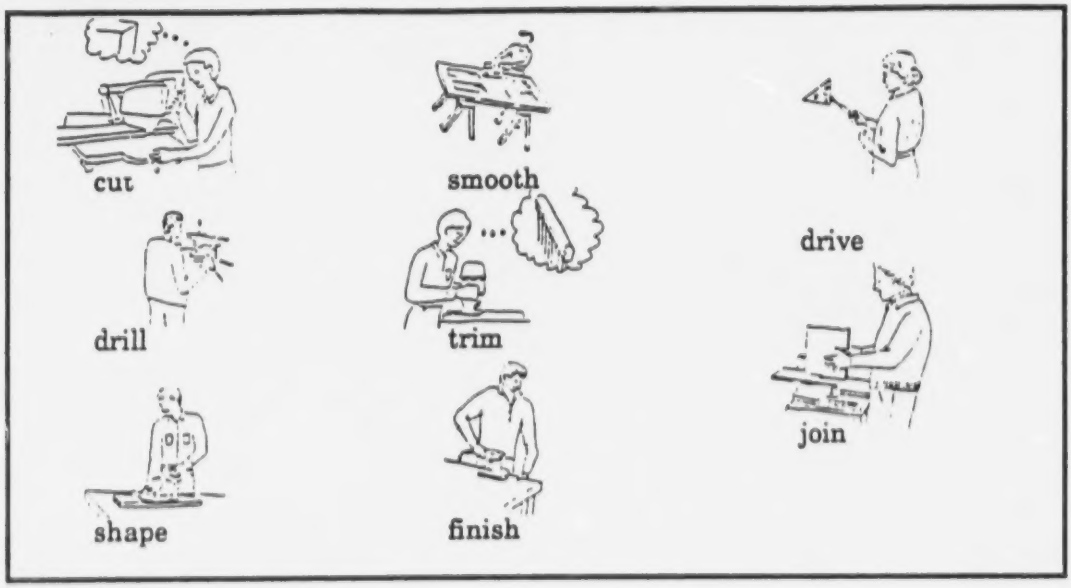
- to identify 8 verbs commonly used with power tools and use them appropriately in context.
- to describe future plans using the future tense "going to."

Language Focus

Verbs	Carpentry Terms
cut trim finish smooth drill join shape drive	wallboard banister project
Everyday Expressions	
What are you going to do? I'm going to_____. How long will it take? Not long.	

Power Tools at Work

Key Vocabulary



Exercises

A. Identification of Action Verbs
The teacher give students flashcards with pictures of power tools on one side and action verbs typically used with these verbs on the other. The students then work in pairs asking and answering questions to identify the verbs that are used with power tools, using this pattern.

What's the verb that goes with this tool?

Cut.

Variation: Have your partner identify the verb the first time and then have him/her identify the tool by looking at the verb.

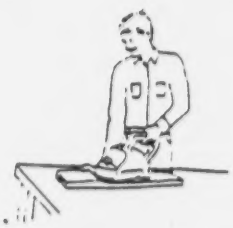
Exercises

B. Write the Verb

1.

2.

3.

4. 

5.

6.

7.

8.

Exercises

C. Substitution Drill
Repeat the sentences that your teacher says and substitute the verb and the complement.

I am going to cut the wood.
drill a hole.
drive the screw into the wood.
shape the wood with the router.
trim the wood with the electric plane.
smooth the wood.
finish the wood.
join the wood together.

Variations: substitute with he, she, you & they.

Structure Focus

Study these sentences:

Oscar is going to smooth the wood, after he eats his lunch.

Felix is going to drill a hole in a minute.

Mohkim is going to cut the wood tomorrow.

Here are some simple rules for the structure:

1. "Going to" is one form of the future tense.
2. "Going to" must follow the verb "to be" (am, is are)
3. A simple present verb must follow the verb "going to"
   Example: I am going to **cut** the wood.

Exercises

D. Fill in the Blank

Write the correct form of the verb going to and the verb in parentheses.

1. (cut) Saed *is going to cut* the wood.

2. (trim) Marco _____ the wood with the electric planer.

3. (finish) We _____ the wood with the orbital sander.

4. (smooth) I _____ the wood with the belt sander.

5. (drill) Lien _____ a hole in the wood with the belt sander.

6. (drive) They _____ the screws into the wallboard in a few minutes.

7. (join) Jorge _____ the wood pieces together to make a table.

8. (shape) They _____ the wood with with the router to make a banister for the stairway.

Exercises

E. Dialogue

Abdul: What are you going to do after you finish that project?

Dao: I'm going to cut the wood with a skillsaw.

Abdul: How long will it take?

Dao: Not long.

1.

drill a hole
with an electric drill.

2.

smooth the wood with
the belt sander.

3.

trim the wood with
the electric plane.

4.

drive a screw into
the wood with an
electric screwdriver.

5.

shape the wood
with the router.

6.

join pieces of wood
together with the jointer.

Exercises

F. Field Trip

Teacher gives the students a list of hand tools and power tools. Students must locate the tools in the local hardware store and write down the price next to the tool on the list. Students may divide into teams and have a scavenger hunt to find the tools. The first team to find all the tools and the prices wins.

CHAPTER III
FASTENERS

Lesson 1

NAILS

Overview

Carpenters use different kinds of fasteners to hold wood together. Since nails are less expensive, they are used more often than other kinds of fasteners. After reading this lesson, you will know 10 types of nails used in carpentry and will identify the sizes. You will also gain experience making orders for nails in a hardware store.

Objectives

- to identify 10 commonly used nails and demonstrate an understanding of their use
- to give appropriate information when placing an order for nails
- to understand the sizing of nails using the "penny system"
- to respond to questions using the adverb of quantity

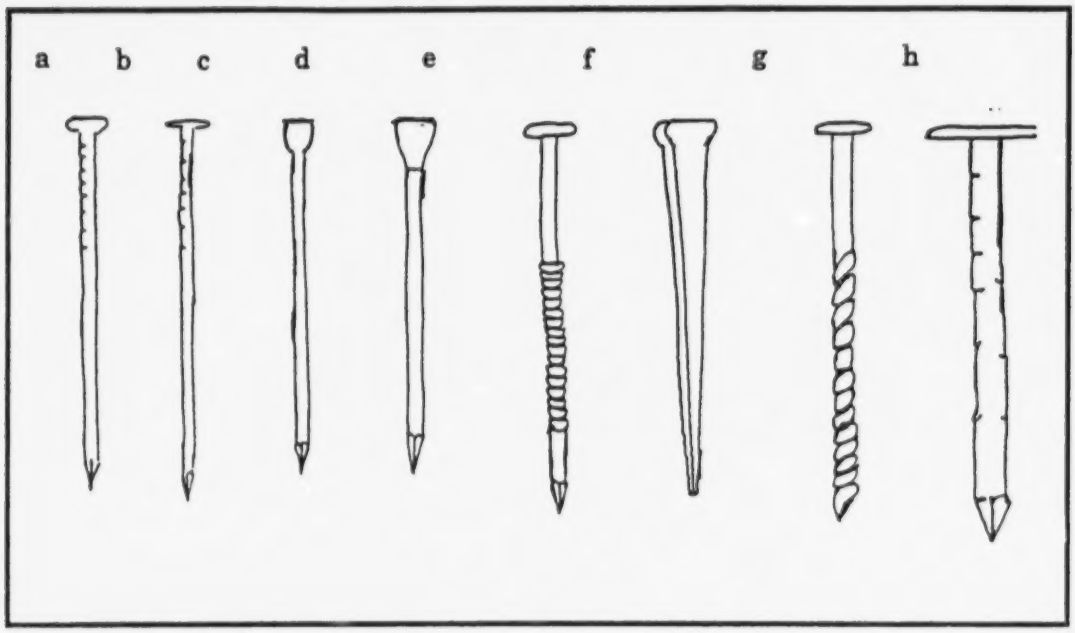
Language Focus

Nails	Carpentry Terms		
common nail	rough framing	rust	bulk
box nail	heavy construction	flat	fibers
finishing nail	penny size	blunt	head
casing nail	trim	joints	split
annular ring nail	cabinet work	molding	shank
cut flooring nail	ridges	paneling	
spiral nail	"d"	squeaking	
roofing nail			
common brads			

Everyday Expressions
What kind of nail is this? This is a _____. Give me a _____. We don't have any _____, but we have some _____.

Nails

Key Vocabulary



a. The common nail is a very strong nail used for **rough framing** work and **heavy construction**.

b. The box nail is similar to the common nail but is smaller and not as strong. It also does not **split** wood as easily as the common nail.

c. The finishing nail is used for **trim** and **cabinet work.**

d. The casing nail is similar to the finishing nail , but is stronger and less **visible**.

e. The annular ring nail is another strong nail with special rings that tightly hold the wood fibers together.

f. The cut flooring nail has **flat** sides and **blunt** tips to prevent the wood from **splitting**.

g. The spiral nail is used for **flooring** and prevents the wood from **squeaking** because of its tight **joints.**

h. The roofing nail is **rust free** and has a large flat head to keep the nail from going through the roofing material.

Key Vocabulary

Nails

Nails have several lengths. Length is determined by the penny system. The symbol "d" stands for penny. A six penny nail is 2 inches long and is written like this: 6d.[1] If a nail is longer than 6 inches or if it is shorter than one inch, the nail is referrred by its length in inches. Nails are sold by the pound. Depending on the job, carpenters may buy nails by the box in pounds. For example, he may ask for a "50 lb. box of 10d common nails." It is cheaper to buy in **bulk** than in small amounts.

Nail Sizes [1]

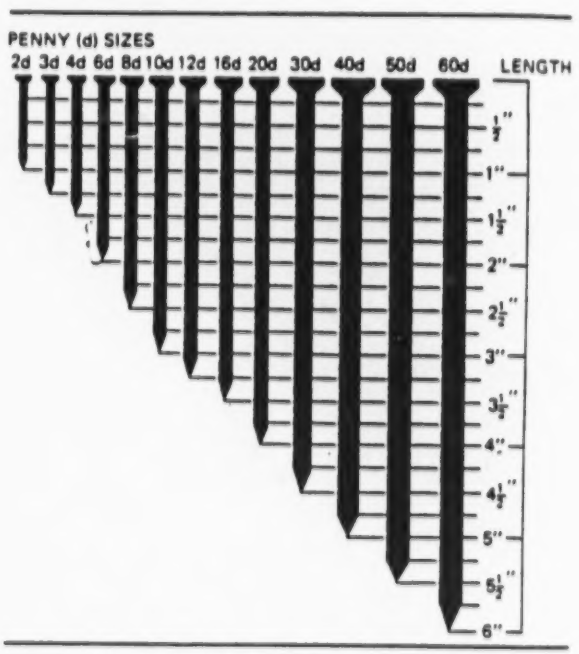


Fig. 3-2 The penny system of nail sizes

[1] Gaspar J. Lewis, Carpentry (New York: Delmar Publishers Inc., 1984), p. 32. Reproduced by permission.

Nails

A. Identification of Tools

The teacher gives students flashcards with pictures of nails. The students then work in pairs, taking turns asking and answering questions to identify the tools, using this pattern:

What kind of nail is this? This a _____.

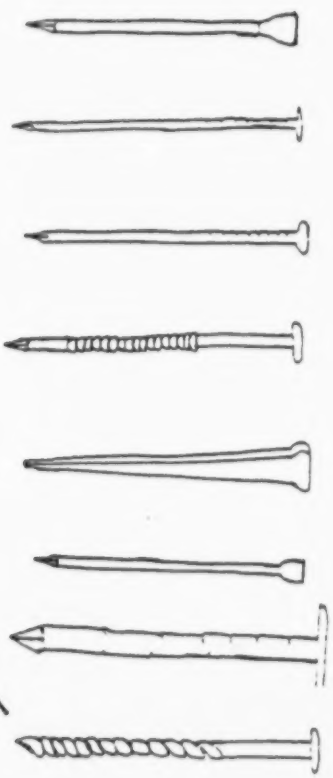
Variation: Teacher gives students actual nails of various sizes. Students take turns asking:

What size nail is this? This is _____d nail.

B. Matching

Draw a line from the picture of the nail to its name.

1. Spiral
2. roofing
3. box
4. finish
5. common nail
6. cut floor
7. casing
8. annular ring



Nails

Exercises

C. Substitutions
Repeat the sentences that your teacher says and substitute the type of nail in the sentence.

Give me a 50 lb box of 10d common nails.
box nails
finishing nails
spiral nails
casing nails
roofing nails
annular ring nails
cut flooring nails

Structure Focus

Study these sentences:

Do you have any spiral nails left?
No, we don't have any left.

Do you have some spiral nails left?
Yes we have some left.

Here are some simple rules for this structure:

1. Any is used with questions and negative statements.

2. Some is used with questions and positive statements.

Nails

Exercises

D. Fill in the Blank
Fill in the blank with any or some.

1. Chris wants to buy *some* nails.

2. Abdul doesn't have _____ box nails.

3. Cesar needs _____ roofing nails.

4. Does Mr. Santos have _____ 6d common nails left?

5. Trancito can't find _____ annular ring nails.

6. Karim didn't buy _____2d nails because they were too small.

7. Alex has to get _____ finishing nails for the cabinet.

8. Mario bought _____ spiral nails for the floor.

9. Are you going to get _____ casing nails?

10. There aren't _____ cut flooring nails left.

Nails

Exercises

E. Dialogue
Practice this model using the pictures below.

Salesman: May I help you?

Oswaldo: Give me a 25 lb box of 10d common nails.

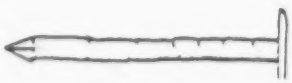
Salesman: I'm sorry, we don't have any.

Oswaldo: Alright, give me a 50 lb box then.

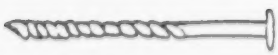
1.

2.

3.



4.



5.

6.

F. Game - Relay Race

1. The teacher divides the blackboard in half and writes a list of penny nail sizes in both sections, but not in the same order.

2. Students divide into 2 teams.

3. The teacher holds up a certain sized nail and members from both teams race to the board to cross out the appropriate size.

4. Point is awarded to the first team who crosses out the appropriate nail size first.

Lesson 2

SCREW TYPES

Overview

Although screws are used for the same purpose as nails, they are much stronger. In this lesson, you will learn about three basic wood screws and two kinds of screwheads. You will also learn to ask and respond to questions about quantity.

Objectives

- to identify four kinds of screws and understand their use in the field.
- to state sizes according to gauge and length
- to express quantities using "few" and "many"

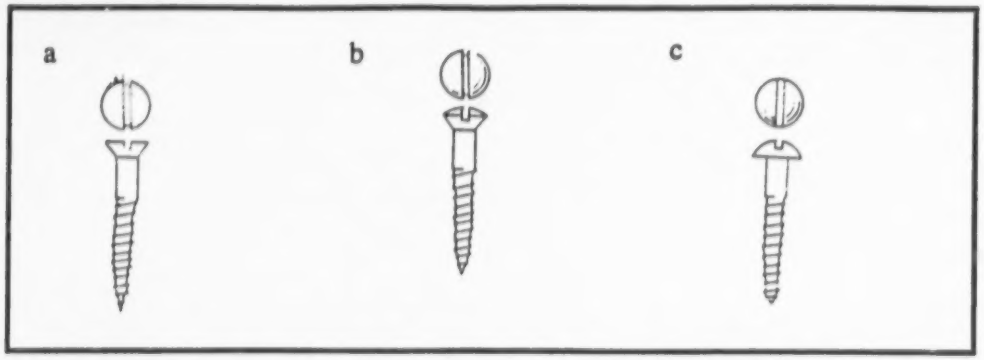
Language Focus

Screws	Carpentry Terms	
flathead screws	hardware	diameter
ovalhead screws	flush	gauge
roundhead screws	(sunk)	thread
panhead screws	general purpose	slipping

Everyday Expressions	
How many _____ do you need?	I need _____.
Do you have any _____?	I have a few _____.
	I have many _____.

Screw Types

Key Vocabulary



a. Flat head screws are used when the fastener must be exactly even with the surface (**flush**).

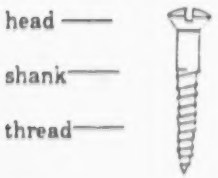
b. Ovalhead screws have the lower half of the head below the surface (sunk) and the top half of the head above. They look nicer and are easier to remove.

c. Roundhead screws are used when the material is too thin to allow sinking. They are general purpose screws and appearance is not important.

d. Phillipshead screws have crossed heads to prevent **slipping**.

e. Common screws have a single slot. They are used for general purposes.

Parts of a Screw



Common Screw

Phillipshead Screw

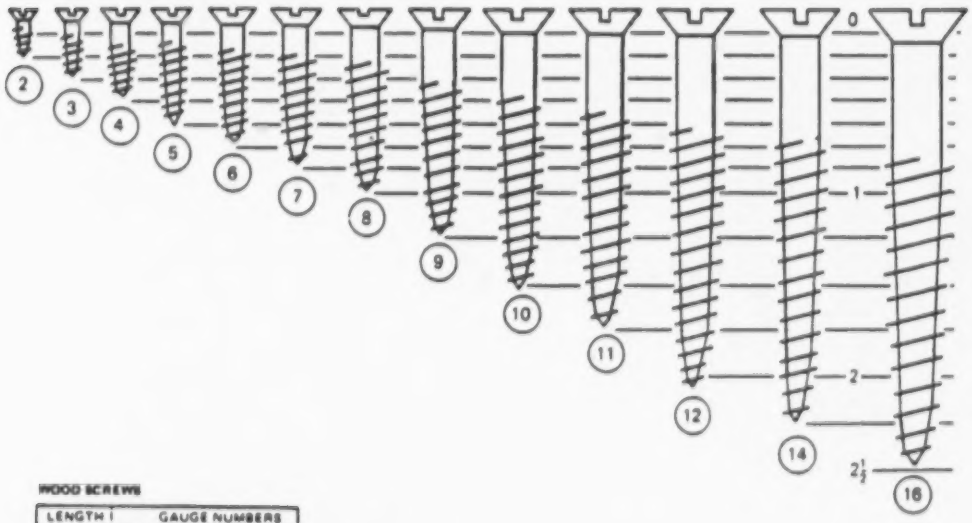
Screw Types

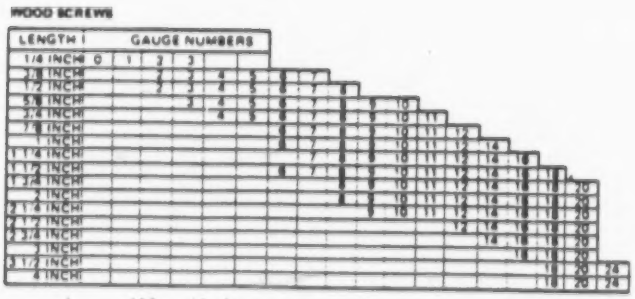
Key Vocabulary

Screw Sizes

If you are going to buy screws from a hardware store, you must know the type of head, the gauge number, and the length of them particular screws you want. There are three basic headtypes: flat, round and oval.

The gauge is a number representing the **diameter** of the head. The higher the gauge number, the greater the diameter. A certain length screw may have several different gauges. [1]





[1] Gaspar J. Lewis, Carpentry (New York: Delmar Publishers Inc., 1984), p. 35. Reproduced by permission.

Exercises

A. Identification of Screws

The teacher gives students flash cards with pictures of the screw types. (Nails could also be reviewed again at this time.) The students then work in pairs, taking turns asking and answering questions to identify the tools, using this pattern:

What kind of screw is this? This is a _____.

Variation: Have the actual screws laid out on a table. Students practice making requests: Pass me the _____screw.

B. Naming Screws and Screw Parts

Write the name of the screw and screw parts on the lines below.

1.

_____

2.

_____

3.

_____

4.

_____

5.

_____

6.

_____

7.

_____

8.

_____

Screws

Exercises

C. Substitutions

Repeat the sentences that your teacher says and substitute the name of the screw. Then repeat the drill substituting the names of the nail types from the previous lesson.

I have a few flathead screws.
oval head screws
roundhead screws
Phillipshead screws

Variation: Teacher holds up actual screws and students respond accordingly.

Structure Focus:

Study these sentences:

How many Phillipshead screws do you need?
I need many Phillipshead screws.
I don't need any.

Do you have any flathead screws?
Yes, I have a few.

Here are some simple rules for this structure:

1. Many is used with plural count nouns. It is used in questions and positive and negative statements.

2. Few and a few are only used with questions and positive statements. It is similar in meaning to little and a little.

Screw Types

Exercises

D. Fill in the Blank
Fill in the blank with any or a few.

1. Sam has a *few* oval head screws.

2. Juan has a _____roundhead screws.

3. Kang doesn't have _____ 2 1/2 inch screws left.

4. Saed has a _____ 1/4 inch screws.

5. Does Maria have_____ Phillipshead screws?

6. Cesar has _____ 4 inch screws.

7. Are there _____ flathead screws left?

8. How _____ round head screws do you want?

9. Do you need _____ 3 inch screws?

10. I only have _____ round head screws.

Screws

Exercises

E. Dialogue

Practice this model with the pictures and cues below.

Vinh: Do you have any Phillipshead screws?

Nasser: I only have a few left. How many do you want?

Vinh: About half a dozen.

Nasser: Here you go.

1.

2.

3.

4.

5.

6.

1/4" 2" 4"

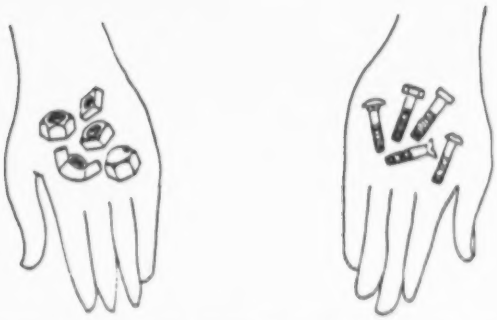
F. Game - What's in the Bag?

1. The teacher gathers an assortment of nails and screws and places them in a brown bag.
2. One student draws a piece of hardware without letting others see it.
3. The other students must guess what the fastener is by asking yes/no questions.
4. Start by asking general questions and then more specific questions.

Example: Is it a screw?
Is it a nail?

Lesson 3

NUTS AND BOLTS



Overview

Nuts and bolts are used when maximum strength is required for holding wood together. After this lesson, you will know five kinds of nuts and three kinds of bolts. You will also have practice expressing needs for these materials.

Objectives

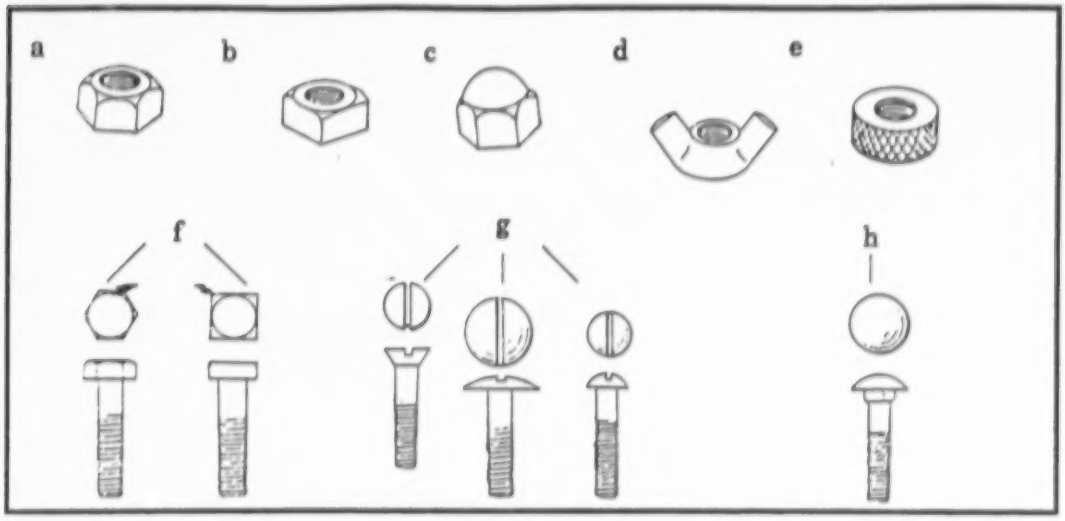
- to identify three types of bolts and five types of nuts and demonstrate an understanding of their use
- to understand the sizes of bolts according to diameter and length
- to express the need for bolts and nuts using the adverb of degree

Language Focus

Hardware		Carpentry Terms
stove bolts machine bolts	wing nuts knurled nuts square nuts	tighten loosen grip maximum
Everyday Expressions		
I don't have enough I need some more _____.		Will you get me some _____? Is this enough? That's great.

Nuts and Bolts

Key Vocabulary



a. The hexagonal nut is the most common nut and has six sides.

b. The square nut has four sides and is used with a stove bolt.

c. The capnut has a finished look and is used when appearance is important.

d. The wing nut has two arms that make it easy to tighten or loosen by hand.

e. The knurled nut has a bumpy surface that makes it easier to grip.

f. The machine bolts must be inserted with a wrench to keep the bolt from turning when tightened. It has two kinds of heads - hexagonal and square.

g. The stove bolt is used for holding light metals or wood together. Stove bolts have three head types: flat, round and oval.

h. The carriage bolt is useful for joining large pieces of wood.

Sizes

Bolts are ordered by the diameter and length in inches. There is no scale or gauge for determining size.
Generally carriage and machine bolts run from

3/4 - 20 inches in length
3/6 - 3/4 inches in diameter

The stove bolts are smaller and run from

3/8 - 6 inches in length
1/8 - 3/8 inches in diameter

Nuts and Bolts

Exercises

A. Identification of Hardware
The teacher gives students flashcards with pictures of the nuts and bolts. The students then work in pairs, taking turns asking and answering questions to identify the tools, using this pattern:

What's this? It's a _____.

B. Name the Nuts and Bolts
Write the name of the nut or bolt under the picture.

1.

_____

2.

_____

3.

_____

4.

_____

5.

_____

6

_____

hexagonal
machine
square head
hex head

square
carriage
wing
knurled

cap
stove
flathead
roundhead

Exercises

C. Substitutions
Repeat the sentences that your teacher says and substitute the name of the nut or bolt in the sentence.

I don't have enough stove bolts.
machine bolts
carriage bolts
wing nuts
knurled nuts
cap nuts
square nuts
hexagonal nuts

Variation: repeat using the actual hardware

Structure Focus

Study these Sentences

Jose doesn't have enough stove bolts.
He needs some more stove bolts.

I don't have enough square nuts.
I need some more square nuts.

We don't have enough carriage bolts.
I need some more carriage bolts.

Here are some simple rules for this structure:

1. Some modifies the adjective more.
2. Some more is only used in positive statements and questions.
3. Need + some more means that an item is lacking.
4. Enough in the negative also means that a supply of a certain item needs to be refilled.

Exercises

D. Fill in the Blank
Supply the blank with "some more" or enough.

1. Sam needs *some more* machine bolts.

2. Xavier doesn't have _____ wing nuts.

3. Lance has some square head nuts, but he doesn't have _____ wing nuts.

4. Leon doesn't have _____round head stove bolts.

5. Arthur has lots of hexagonal nuts, but he doesn't have _____wing nuts.

6. Saed needs _____ flathead stovebolts because he doesn't have _____.

7. Karim needs _____wing nuts and he also needs _____ knurled nuts.

8. Lee doesn't have _____ carriage bolts.

9. Jung doesn't have _____ stove bolts and he needs _____ carriage bolts.

10. Ben has lots of square nuts, but he doesn't have _____ wing nuts.

Exercises

E. Dialogue
Follow this model, using the pictures below.

Alfonzo: Hey Manuel! I don't have enough carriage bolts to finish this job. Will you get me some more?

Manuel: Alright, just a minute .....
Here you go. Is this enough?

Alfonzo: Yeah, that's great!

1.

2.

3.

4.

5.

8.

F. Roleplay

Roleplay a scene at the hardware store using the dialogue on page 54 as a base. Gather as many fasteners as possible and any other relevant props.

CHAPTER IV

SANDPAPER

Lesson 1

SANDPAPER TYPES AND WEIGHTS

Overview

Sanding is an important part of **finish carpentry** and is also necessary for **rough carpentry**. Carpenters use sandpaper to smooth the wood and prepare it for coating with a finish. In this lesson, you will learn the five types of sandpaper and the different classes of weight.

Objectives

- to identify five types of sandpaper and to demonstrate an understanding of their use
- to distinguish sandpaper by their weight
- to give explicit responses using the present perfect

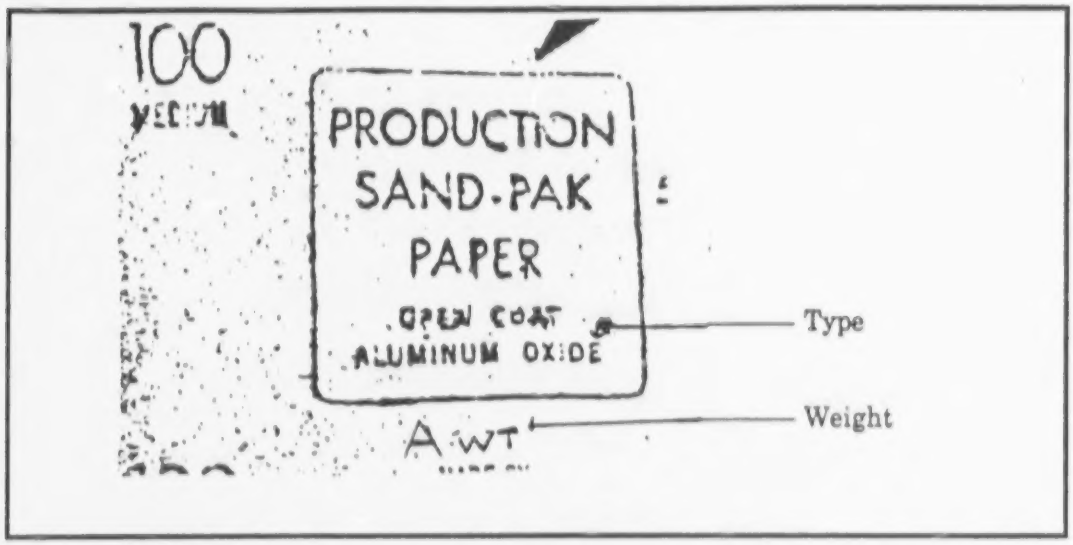
Language Focus

Sandpapers and Weight		Carpentry Terms
flint paper	A weight	wears out
emery cloth	C weight	lasts/lasting
crocus cloth	D weight	"touching up"
garnet paper	E weight	stiff
aluminum oxide		machine sanding
production paper		grits
		coarse

Everyday Expressions	
What kind of _____?	I've already _____.
Did you use _____?	No, I used _____.

Sandpaper Types and Weights

Key Vocabulary



Sandpaper Types

a. Flint paper is used for rough carpentry and removing paint. It is the cheapest and **wears out** quickly.

b. Garnet paper is used for finish work and harder wood.

c. Aluminum oxide (production paper) is widely used for the first sanding and has a reddish color. It is more expensive than other kinds of sandpaper, but it lasts longer.

d. Emery cloth is colored black and is used for sanding soft metal.

e. Crocus cloth is used for sanding soft metal, glass, and floors.

Sandpaper Weights

a. A weight paper is the lightest of all, but wears out the fastest. It is only used for "touching up" wood lightly.

b. C weight paper is **stiffer** and stronger than A and is used for machine sanding.

c. D weight paper is even stronger and is used for heavier machine sanding.

d. E weight paper is the strongest of all the sandpapers and is used with very **coarse grits** for floor sanding.

Exercises

A. Identification of Tools
The teacher gives students samples of the five kinds of sandpaper. The students then work pairs, taking turns asking and answering questions to identify the sandpapers using this pattern:

What kind of sandpaper is this?
It's _____ sandpaper.

What is it used for?
It's used for _____.

What is the weight?
It's _____weight.

B. Question and Answer
Work in pairs asking and answering these questions.

1. What color is emery cloth?
2. Which sandpaper is used the most often?
3. Which sandpaper is used for smoothing hardwood?
4. Which sandpaper is used for removing paint?
5. What sandpaper weight is used for "touching up" wood lately?
6. What sandpaper is used for sanding the floor?
7. Which sandpaper is the cheapest?
8. Which sandpaper is used for sanding soft metal?
9. Which sandpaper is used has a reddish color?
10. What color is flint sandpaper?

Sandpaper Types and Weights

Exercises

C. Substitutions
Repeat the sentences that your teacher says and substitute the name of the sandpaper in the sentence.

Did you use flint paper?
A weight paper
crocus cloth
C weight paper
emery cloth
D weight paper
garnet paper
E weight paper
aluminum oxide paper

Structure Focus

Study these sentences:

I have already sanded the chair two times.
Ok has already cut the wood for the frame.
We have already drilled the holes for the screws.

1. The present perfect is formed by using have or has + past participle of the main verb.

2 The past participle for regular verbs is the same as the past tense.

3. Already is used to stress an action in the past.
Suki has already cut the wood.
I have already sanded the wood twice.

Sandpaper Types and Weights

Exercises

D. Answer these questions with the present perfect and already.

1. When is Abdul going to sand the door with production paper?
   He's already sanded the door with production paper.
2. When is Tran going to sand the wall with flint paper?
3. When is Dao going to sand the floor with E weight paper?
4. When are the Smiths going to cut the wood with the backsaw?
5. When is Mohammed going to mark the wood?
6. When is Oscar going to measure the length of the wood?
7. When are you going to measure the length of the wood?
8. When is Maria going to "touch up" the chair with the A weight paper?
9. When is Mark going to drive the screw into the wood?
10. When is Rita going to sand the cabinet with garnet paper?

Exercises

E. Dialogue
Practice this model substituting in the words below.

A This needs to be sanded again.

B: I've already sanded it twice.

A: Did you use production paper?

B: No, I used flint paper.

1. A: Did you use garnet paper?
   B: **ALUMINUM OXIDE PAPER**

2. A: Did you use flint paper?
   B: **GARNET PAPER**

3. A: Did you use C weight paper?
   B: **D WEIGHT PAPER**

4. A: Did you use D weight paper?
   B: **E WEIGHT PAPER**

5. A: Did you use emory cloth?
   B: **CROCUS CLOTH**

6. A: Did you use A weight paper?
   B: **C WEIGHT PAPER**

Exercises

F. Game - Password

1. Students are divided into teams (i.e. teams A,B,C)

2. One member of each team is given the password (one of nine vocabulary words describing sandpaper.)

3. Each member takes turns giving one word clues to a second member on their team to prompt his /her team member to say the PASSWORD. For example, if the password is crocus cloth, A1 might give the clue "metal" to his partner A2. B1 might give the clue "floors" to his partner B2. C1 might say "glass" to his partner. The first partner to say the password, wins one point.

4. If A1, B2, C2, receive the clues in the first round these same team members give the clues in the next round to A3, B3, C3.

5. The winner of the last round starts the next round.

6. Clues can not be contained within the PASSWORD.
For example, if the word is "A weight paper," students may not use the word paper or weight as a clue to elicit the password from the partners.

Lesson 2

ABRASIVES AND GRITS

Overview

Sandpaper varies according to the kind of abrasive and grade of grit. In Lesson 2, you will learn the two kinds of sandpaper abrasives and the grading scales for measuring fineness. You will also practice describing sandpaper in making and responding to questions.

Objectives

- to identify sandpaper according to grade of fineness
- to understand sandpaper abrasives and distinguish between closed-coat and open-coat.
- to rate sandpaper according to standard scales
- to describe the sandpaper grade using the comparative adjectives

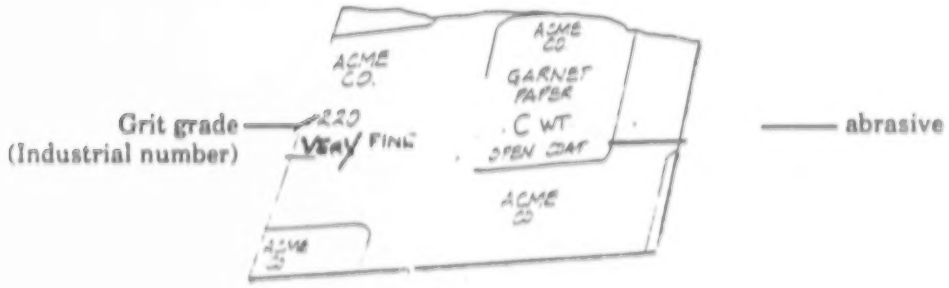
Language Focus

Carpentry Terms			
open - coat	extra coarse	grade	density
closed coat	extra fine	grit	clog-up
medium grit	very fine	particles	fineness
coarse grit	very coarse	abrasive	
fine grit		backing	

Every day Expressions
Don't you want the _____?
Are you ready to do the _____?
_____ will do the job.

Abrasives and Grits

Key Vocabulary



Kinds of Abrasives

Abrasives of sandpaper refers to the **density** on the **backing** or how close together the grit particles are on the backing. There are basically two kinds of abrasives:

a. Closed-coat has a sandpaper backing that is covered 100% with grits. It is used for a **fine** finish (hardwoods).

b. Open-coat has a sandpaper backing that is covered 50-70 % with grits. It is useful for the first sanding and is normally used on softwoods.

Key Vocabulary

Grade of Grit [1]

Grit are particles that stick to the back of the sandpaper. There are two systems for classifying grit.

1. "The Retail System"
   a. Coarse grit is backing with large particles.
   b. Medium grit is backing with slightly smaller particles than coarse particles.
   c. Fine grit is backing with very small particles.
2. "The Industrial System"
   The grade runs numerically from 12-600. The higher the number, the finer the sandpaper.

Retail System	Industrial
Extra Fine/Superfine	600 500 400 360 320
Very Fine	280 240 220
Fine	180 150 120
Medium	100 80 60
Coarse	50 40
Very Course	36 30 24
Extra Coarse	20 16 12

[1] Adapted from Wood Finishing and Refinishing, Creative Homeowner's Press (ed.), p.18.

Abrasives and Grits

Exercises

A. Identification of Sandpaper Grits
The teacher gives students samples of sandpaper of varying grades and kinds of abrasives. The students then work in pairs, taking turns asking the following questions as they examine each sample, using this pattern.

What kind of abrasive does this sandpaper have?
The abrasive is _____.

What is the "Retail" grade?
The "Retail" grade is _____.

What is the "Industrial grade?"
The Industrial grade is _____.

B. Matching

1. grit	___	a.	industrial number indicating that the sandpaper is very fine
2. 12	___	b.	particles that stick to the back of the sandpaper.
3. grade	___	c.	very small particle
4. coarse grade	___	d.	particles larger than fine but smaller than coarse.
5. closed- coat	___	e.	abrasive with 100% of the surface covered with grit.
6. fine grit	___	f.	industrial number indicating that the sandpaper is very coarse.
7. medium grit	___	g.	scale for measuring the fineness of sandpaper.
8. 600	___	h.	degree of how close the particles are stuck together on the backing.
9. open-coat	___	i.	backing with large particles.
10. abrasive	___	j.	abrasive with 50-70% of the surface covered.

Exercises

C. Substitutions
Repeat the sentences that your teacher says and substitute the words for sandpaper grades and grits in the sentence.

Don't you want the open- coat sandpaper?
medium grit
coarse grit
fine grit
extra coarse
extra fine
very fine
very coarse
closed-coat

Structure Focus

Study these sentences:

The 280 grit sandpaper is finer than the 100 grit.
Pinewood is softer than oak.
C weight paper is heavier than A weight paper.

Here are some simple rules for this structure:

1. To compare two items , add er to all one syllable adjectives.

2. Add more or less before adjectives that have three or more syllables

3. Comparatives are followed by the word than.

Abrasives and Grits

Exercises

D. Sentences Rewrites
Rewrite the sentences with the comparative in parentheses.

1. A weight paper and E weight paper (strong).

   E weight paper is stronger than A weight paper.

2. Aluminum oxide paper and flint paper (lasts long).

3. C weight paper and D weight paper (heavy).

4. Flint paper and garnet paper (cheap).

5. Closed coat and open - coat (smooth finish).

6. Coarse grit and fine grit (small particles).

7. Sandpaper with 30 grit and sandpaper with 180 grit (coarse).

8. C weight paper and A weight paper (light).

Exercises

E. Dialogue
Practice the model with the cues below.

A: Are you ready to do the sanding on this wood?

B: Yeah, get me a medium grade production paper.

A: Don't you want something **finer** than that?

A: No, this is the first sanding and a medium grade will do the job.

1. very fine
coarser
this is for finishing the cabinet and a very fine grade

2. extra fine
coarses
this is for the chair and an extra fine grade

3. medium
finer
this is the first sanding for the door and a coarse grade

4. extra coarse
finer
this is for removing paint from the floors and an extra coarse grade

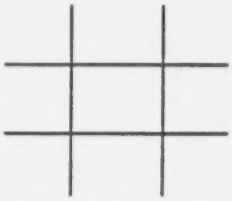
5. very coarse
finer
this is the first sanding for the floors and a very coarse grade

6. fine
coarser
this is the last sanding of the desk before putting on the finish and a fine grade

Exercises

F. Game - Triple Definition

1. The teacher will give the students a list of vocabulary words from lessons 1 and 2 on sandpaper.
2. Make a grid like the one below on your own paper.



3. Pick words from the list to write in the squares of the grid.
4. The teacher will read aloud definitions, cross-out any words on your grid that match the definition given by the teacher.
5. The first student to cross out three words in a row wins.
6. The teacher checks the winners words with the definition called.

Lesson 3

UNDERSTANDING SANDPAPER FURTHER

Overview

In this lesson you will review material from the previous lessons. You will have a greater understanding about the sandpaper grades according to the industrial numbers and identify the notations written on the sandpaper.

Objectives

- to determine the "retail" grade by observing the industrial number.
- to identify the notations on sandpaper backing
- to evaluate sandpaper according to usefulness for the job using the irregular comparative structure.
- to ask for advice using the "comparative structure"

Language Focus

Carpentry Terms	
extra fine	extra coarse
very fine	weight
medium	abrasive
coarse	grade
very coarse	industrial number

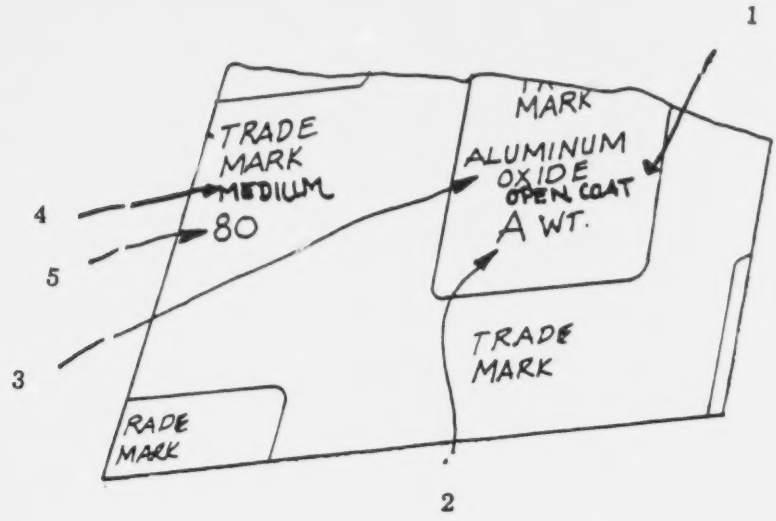
Everyday Expressions
____ is good, but _____ is better than that
____ is better _____ is worse than that
_____ is bad, but ___is worse.

Exercises

A. Identification of Tools
The teacher gives students flashcards with industrial number on one side and the corresponding retail number on the other. The students then work in pairs, taking turns asking and answering questions to identify either the industrial or the retail grade.

What grade is this?
It's medium.

B. Identifying Sandpaper Parts
Write the number of the item next to the vocabulary word that matches it.



___ weight ___ grade of grit ___ type of material

___ kind of abrasive ___ industrial number

Exercises

C. Substitutions

400 extra fine is better than that.
320 extra fine
222 very fine
150 fine
100 medium
80 medium
50 coarse
36 very coarse
20 extra coarse
12 extra coarse

Structure Focus

Study these sentences:

The fine sandpaper is good, but the extra fine sandpaper is better.

The 50 coarse flint paper is bad, but the 36 coarse flint paper is worse.

Here are some simple rules for this structure:

1. Comparative adjectives bad and good do not follow the -er pattern.

2. These adjectives describe the quality of the noun they modify.

Exercises

D. Make the Comparative
Answer the question with the comparative better or worse.

1. The drill or scratch awl. Which one is better for making holes in the wood?
The drill is better for making holes in the wood.

2. The torpedo level or the carpenter's level. Which one is better for working in small areas?

3. Kim's handsaw or Ed's handsaw. Ed's handsaw does not cut very well, but Kim's does. Which one is worse?

4. The electric screwdriver or the hand screwdriver. Which one is better.

5. Nails that easily bend or nails that are strong and sturdy. Which nails are worse?

6. A weight paper or C weight paper. Which one is better for "touching up" the wood?

7. Closed coat or open coat. Which one is better for finishing hardwoods?

8. Coarse paper or fine paper. Which one is worse for finishing furniture?

9. Flint paper or garnet paper. Which one is better for removing paint?

10. Crocus cloth and aluminum oxide paper. Which one is better for sanding soft metal?

Exercises

E. Dialogue

A: Which sandpaper is better? The 150 fine grit or the 80 medium grit?

B: What do you want to do?

A: I want to smooth the wood for a final finish.

B: The **150 FINE GRIT** is better.

1. 20 extra coarse or 36 very fine course.
sand the painted floors
20 EXTRA COARSE

2. 280 very fine or 180 fine.
polish the wood between coats
280 VERY FINE

3. 36 very coarse or 60 medium.
do the first sanding for the bare wood.
36 VERY COARSE

4. 100 medium or 150 fine.
do the first sanding for the softwood
100 MEDIUM

5. 50 coarse or 30 very coarse.
remove the paint and do a rough sanding
50 COARSE

6. 400 extra fine or 150 fine.
finish the furniture between coats
400 EXTRA FINE

Exercises

F. Game - Guess the Grit

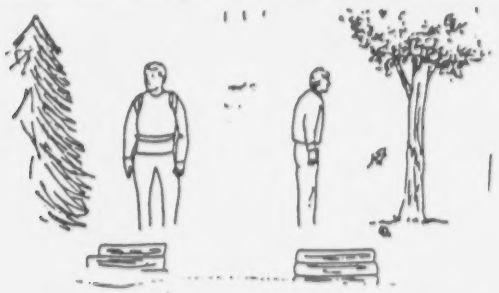
The teacher removes the industrial number from several kinds of sandpapers. The students touch the sandpaper and guess what the grit number is. First ask them to determine whether the sandpaper is fine, coarse, or medium.

CHAPTER V

LUMBER WOOD

Lesson 1

CHARACTERISTICS OF LUMBER WOOD



Overview

Wood that has been cut from trees and **dressed** for industry is called lumber. Lumber varies according to strength, color, and texture. In this lesson, you will study these characteristics and state the differences between softwood and hardwood. Afterwards, you will practice choosing lumber according to the characteristics.

Objectives

- to understand lumber wood characteristics
- to distinguish between hardwoods and softwoods
- to specify trees using descriptive and comparative adjectives
- to specify preferences using the model "would rather"

Language Focus

Wood Terms		
softwood	soft	rots
hardwood	hard	lasts long
durability	weak	rots easily
workability	strong	resistant
strength	light	
shade	heavy	
texture	durable	
weight	hardness	

Everyday Expressions
I would rather use _____than _____.

Characteristics of Lumber Wood

Key Vocabulary

Softwoods and Hardwoods

All trees are identified as either softwood or hardwood. Softwood is the wood that comes from trees that produce cones (also evergreens). Softwoods are normally used for rough carpentry because it is easier to drive a nail through these trees and they are also cheaper than hardwoods. Hardwoods are those trees that lose their leaves (also called deciduous). These trees are usually used for making furniture or for fine woodworking because they don't scratch or dent easily. The labels hardwood and softwood do not always determine the hardness of the wood. Some woods listed as softwood are actually hard. The characteristics of lumber are: durability, hardness, workability, strength, shade, texture, and weight.

a. Durability marks how long the wood will last and if it is resistant to harsh weather and insects.

b. Hardness is the degree to which wood resists scratches, dents, and cuts.

c. Strength marks how strong or how weak the wood is.

d. Shade is the color of the wood. Some are light and some are dark colors.

e. Workability marks how easy or difficult it is to cut and shape the wood.

f. Texture is marked by the grain patterns in the wood. It may be coarse, fine or straight.

g. Weight is marked by how heavy or how light the wood is.

The next two pages list popular hardwoods and softwoods and their characteristics. Study them carefully before doing the exercises.

Characteristics of Lumber Wood

Key Vocabulary

POPULAR HARDWOODS IN THE UNITED STATES

TYPE	USE	A Hardness	B Smoothness	C Durability	D Strength	E Weight	F Ease in working with wood	G Color	H Special Traits
Ash	furniture inside trim	hard	coarse	very durable	---	---	easy	light brown	---
Beech	flooring chairs	hard	fine/closed	---	strong	heavy	---	brown-red	doesn't scratch easily
Birch	cabinets, flooring	hard	fine/closed	---	strong	heavy	---	white/ yellow	natural finish
Cherry	furniture paneling	very hard	---	---	strong	heavy	difficult	light & dark brown	doesn't dent easily
Hickory	tool handles baskets ladders	very hard	---	---	very strong	---	---	tan/ brown	rots more easily
Maple	inside trim furniture floors	very hard	fine	very durable	very strong	---	---	red/ brown	---
Oak	flooring inside trim cabinetry	very hard	open	---	strong	---	---	brown	needs lots of finish
Poplar *	inside trim furniture paneling	soft	fine	---	weak	light weight	easy	yellow/ brown	---
Sycamore	inside trim paneling cabinetry	hard	closed	strong	strong	---	heavy	red/ brown	warps
Walnut	furniture paneling cabinetry	hard	open	---	strong	---	easy	light brown	finishes well

[1] Adapted from Basic Carpentry Techniques, p.12

* This wood is actually a softwood.

Characteristics of Lumber Wood

Key Vocabulary

POPULAR SOFTWOODS IN THE UNITED STATES

TYPE	USE	A Hardness	B Smoothness	C Durability	D Strength	E Weight	F Ease in working with wood	G Color	H Special Traits
Cedar	chests/closet	very soft	fine	---	weak	---	easy	red/ brown	protects against moths
Cypress	inside walls posts, fences bridges	soft	coarse	---	weak	light weight	easy	light brown/ black	water-proof
Douglas Fir *	construction flooring doors/trim	mod. hard	close	---	strong	light weight	---	light tan	---
Hemlock *	construction plywood	mod. hard	---	---	---	light weight	---	reddish/ brown	---
Larch *	framing shelves,fences furniture	mod. hard	---	---	strong	---	---	red/ brown	---
White Pline	heavy constr. paneling furniture	soft	---	doesn't warp easily	---	light weight	---	yellow/ white	---
Southern Pine	floors, furn. frames, shelves	soft	fine/closed	---	strong of all	light weight	easy	reddish	---
Sugar Pine	inside finish	soft	straight	doesn't warp easily	---	light weight	---	light brown	---
Redwood	doors, frames trim	soft	straight	---	---	---	easy	dark red/dark brown	---
Spruce	inside work	soft	straight	doesn't rot easily	strong	light weight	easy	dark red/dark brown	---

[1] Adapted from Basic Carpentry Techniques, p.12 - 13

* These woods are actually hardwoods.
Abbreviations:
mod. = moderately constr. = construction furn. = furniture

Exercises

A. Identification of Softwoods and Hardwoods
The teacher gives students flashcards with names of trees on one side and the label softwood or hardwood on the other. The students take turns asking and answering questions, using this pattern:

What type of wood is this tree?
It's a hardwood/softwood.

B. Matching
Match the characteristics of wood on the left with the definitions on the right.

1. durability	____	a. light brown
2. hardness	____	b. weak
3. workability	____	c. very fine
4. strength	____	d. easy
5. shade	____	e. rots easily
6. texture	____	f. heavy
7. weight	____	g. very hard

Exercises

C. Substitutions
Repeat the sentences that your teacher says and substitute the comparative adjective:

Would you rather have a wood that is softer?
is more durable
is lighter colored
has a finer texture
is stronger
is harder
is heavier

Structure Focus:

Study these sentences:

I would rather get the softwood than the hardwood.
I would rather buy a lighter piece of wood than a heavier one.

Here are some simple rules for this structure:

1. Would rather expresses personal choice and is followed by the simple form of the main verb.

   I would rather get _____.

2. I'd rather = I would rather
   He'd rather = He would rather
   She'd rather = she would rather

3. The negative form is would rather not:

   We'd rather not use oak wood for the bookshelves.

4. The wood than is used for expressing choice over another.

   I'd rather have a softer wood than a harder one.

Exercises

D. Making Sentences
Write sentences using would rather expressing one choice.

1. Maplewood or Southern Pinewood

   I would rather get Maplewood than Southern Pinewood.

2. Cypress that is waterproof or cedar that is mothproof.

3. Wood that is strong and supports heavy beams or wood that is light and easier to move.

4. Harder wood that won't scratch or softer wood that is easier to work with.

5. Wood with a smoother finish or wood that has a coarser finish.

6. Wood that is dark brown or wood that is light brown.

7. Wood that is cheaper and less durable or wood that is more expensive and more durable.

8. Furniture made out of walnut or furniture made out of cherry wood.

9. Wood that has a finer texture or wood that has a coarser texture.

10. Wood that has a natural finish or wood that has a darker finish.

Exercises

E. Dialogue
Practice this model with the cues below.

A: Would you rather use Sugar Pine or Spruce to build the cabinet?

B: I'd rather use **Sugar Pine** than **Spruce.**

A: Why?

B: Because **IT HAS A NICER COLOR.**

1. Cedar or Southern Pine
southern pine than Cedar
IT IS LESS EXPENSIVE

2. Ash or Birch
Birch than Ash
FINER GRAIN

3. Cherry or Walnut
Walnut than Cherry
IT IS LESS EXPENSIVE

4. Maple or Oak
Maple than Oak
IT REQUIRES LESS FINISH

5. Popular or Sycamore
Popular than Sycamore
EASIER TO WORK WITH

6. Beach or Hickory
Beach than Hickory
MORE DURABLE

Exercises

F. Game - Name the Opposite

1. The teacher makes a list of the opposites describing wood characteristics. Example: hardwood vs softwood
2. The teacher puts the words on flashcards.
3. Students divide into teams.
4. One student is chosen to be a monitor and hold up the cards one at a time.
5. Teams compete against each other to state the opposite of what is shown on the card. (Note: only one member of each team may respond, the other members must be silent.)
6. First team member to correctly state the opposite, gains a point for his/her team.

Lesson 2

LUMBER GRADE STAMP AND LUMBER DEFECTS

Overview

Carpenters must carefully choose lumber that is suitable and free from defects. In this lesson, you will look at the lumber grade stamp and be able to examine wood for defects. You will then practice giving and receiving advice about choosing lumber wood.

Objectives

- to read a lumber grade stamp and identify the notations
- to identify seven kinds of defects commonly found in lumber
- to understand the differences between green and dry lumber
- to give advice about selecting lumber using the modal should

Language Focus

Carpentry Terms		
defects	knot	moisture content (m.c.)
check	knotholes	"green lumber"
shake	grade	dry lumber
split	surfaced	

Everyday Expressions
What's wrong with this? It has a _____. You shouldn't use wood that has a _____. What's the matter with it? I'll look for another.

Lumber Grade Stamp and Lumber Defects

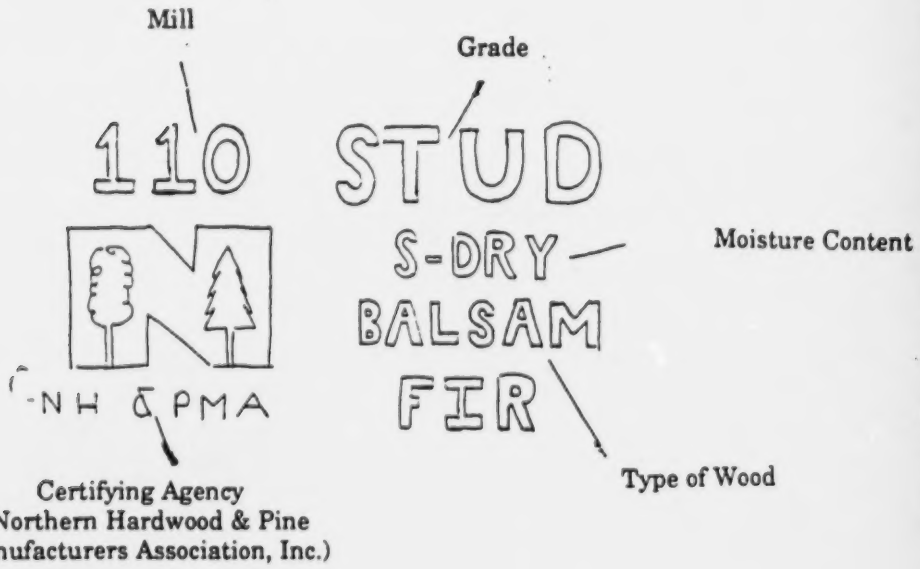
Key Vocabulary

Lumber Grade Stamp

Most lumber is stamped to tell the buyer the company that graded it, the quality of the lumber, the moisture content (m.c) and the type of wood that it is. Moisture content is the amount of water inside the wood cells.

When the wood is cut, the moisture content is very high. After the wood has been properly dried, the moisture content is lower. If the moisture content is higher than 20 % , it is considered to be "green lumber" and it is not fit for use. For framing outside finish work, the moisture content should be about 15 m.c. An indoor finish should have an m.c. of 10-12%. The stamps often refer to the m.c. as follows:

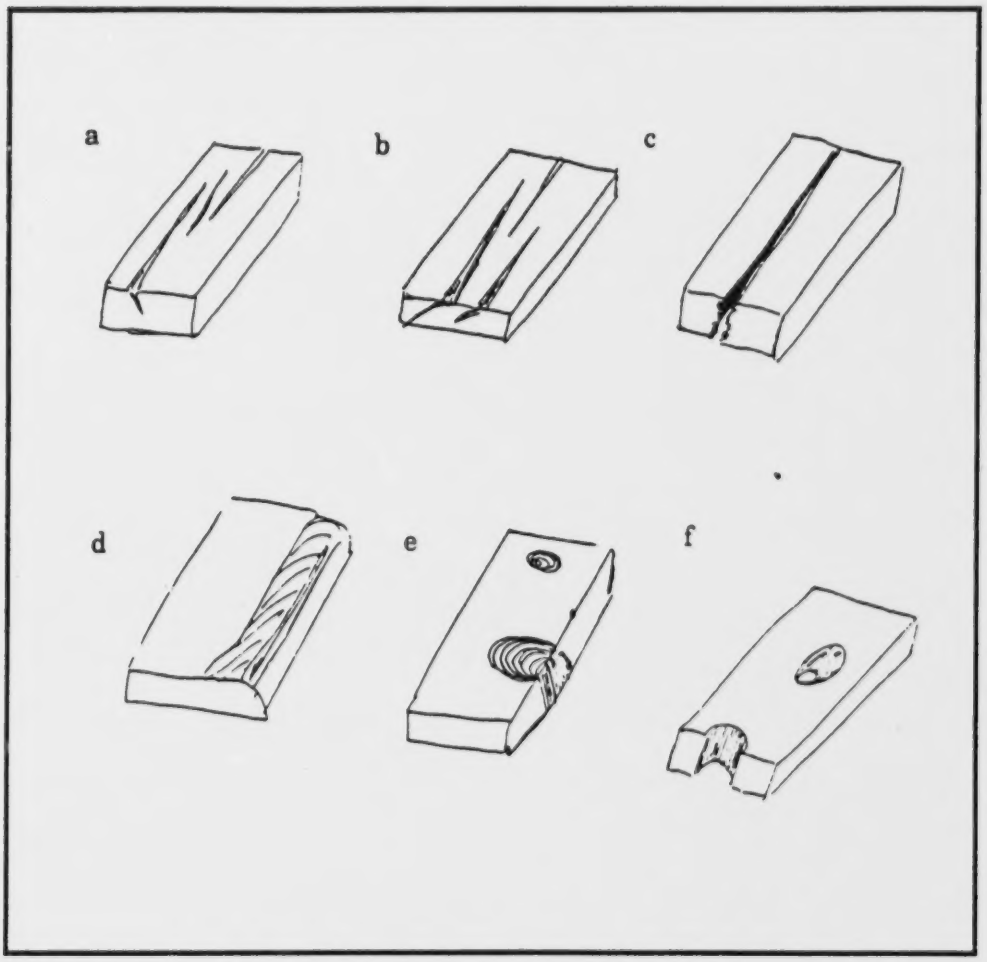
S - GRN—surfaced green lumber (m.c. = more than 20% m.c.)
S - DRY—surfaced dry (m.c. = 19% or less)



Lumber Grade Stamp and Lumber Defects

Key Vocabulary

Lumber Defects



a. A check is a small crack in the wood.

b. A shake is a deep crack in the lumber caused by winter frost.

c. A split is a complete break in the wood.

d. A knot is a dark circular section in the wood.

e. A knothole is a hole in a piece of lumber where the knot has been removed.

f. A wane is a warped edge of the board.

Exercises

A. Identifying Lumber Defects
The teacher gives students flashcards with pictures of the defects. The students then work in pairs, taking turns to identify the defects, using this pattern:

What's this? It's a _____.

Variation: The teacher gives students actual pieces of lumber with defects and students repeat the drill.

B. Matching

1. S - DRY	___	a. checks
2.	___	b. moisture content
3.	___	c. knots
4. S - GRN	___	d. splits
5.	___	e. wane
6.	___	f. moisture content over 20%
7. m.c.	___	g. knotholes
8.	___	h. shakes
9.	___	i. moisture content less than 19%

Exercises

C. Substitutions

Repeat the sentences that your teacher says and substitute the name of the defect in the sentence.

You shouldn't use wood that has checks.
shakes
splits
knots
wane
knotholes

Variation: Teacher uses wood samples with defects as cues.

Structure Focus

Study these sentences:

You should buy lumber that has an M.C. of 19% or less.
You shouldn't use lumber that as on m.c. of more than 20%.

Juan should check the lumber carefully for checks and shakes.
He shouldn't buy lumber that has checks and shakes.

Here are some simple rules for this structure:

1. Should may be used when advice for some action is given.
2. When should is used, the respondent has a choice to accept or reject the advice.

   Example: Marco should buy hardwood for the job.
   (Marco doesn't have to buy hardwood.)

3. The negative form of should = should or shouldn't.

Exercises

D. Sentence Rewrites
Change these commands into statements with advice using should or shouldn't.

1. Don't use wood with checks.
   You shouldn't use wood with checks.
2. Check the wood for knotholes.
3. Don't get wood with shakes.
4. Look and see if there are any splits in the wood.
5. Don't use green wood for building anything.
6. Make sure the lumber stamp has S-DRY on it.
7. Watch out for lumber with wanes!
8. Choose lumber that has an m.c. of 19% or less.
9. Don't buy lumber that has an m.c. over 20%.
10. Don't get lumber with lots of knots.

Exercises

E. Dialogue
Practice this model using the pictures below.

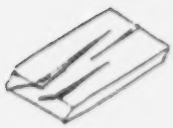
A: You shouldn't use that piece of wood.

B: Why? What's the matter with it?

A: It has a defect.

A: Okay, I'll look for another.

1.



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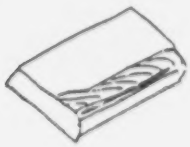

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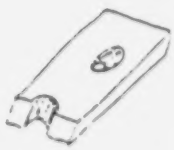

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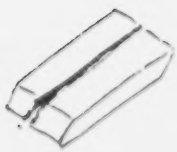
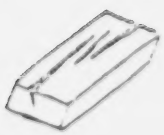


5.

6.



Exercises

F. Field Trip to Lumberyard

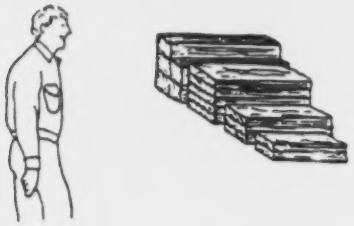
Teacher gives students a list of types of wood. Students visit a local lumberyard and find the wood listed. The students then examine the wood and fill out the form below - checking the boxes if defects are found.

Type of Wood	Grade	M.C.	Checks	Knots	Splits	Knotholes	Shakes

Variation: Students give more details describing defects by indicating if there were a) few b) some c) a lot

Lesson 3

LUMBER SIZES



Overview

In the last lesson, you will learn how to read lumber wood dimensions. You will also be able to convert from actual sized lumber to nominal sized lumber. Finally, you will practice stating lumber needs and giving advice for buying lumber.

Objectives

- to understand the nominal system for measuring wood
- to give advice based on probability using the modal should
- to describe lumber needs
- to give appropriate information for ordering lumber in a hardware store

Language Focus

Carpentry Terms	
nominal size	width
actual size	length
boardfeet	dimensions
Everyday Language	
What do you need?	
You should probably get _____.	
Okay, get me _____.	

Lumber Sizes

Key Vocabulary

Lumber Sizes

Most lumber is sold by **boardfeet**. The buyer must know the thickness, width, length, and number of pieces. Lumber dimensions are always given by the nominal size. The **nominal size** is the measurement of wood after it has been cut from trees. The actual size is the size of the lumber after it has been dried and trimmed to a standard size. The carpenter must first figure out the actual size (real size) of lumber for his project and then change it to the nominal size. The first number stands for thickness and the second stands for width. The third number stands for length. The length does not change and so it is not included in the chart below.

nominal	actual
1 x 2	3/4 x 1 1/2
1 x 3	3/4 x 2 1/2
1 x 4	3/4 x 3 1/2
1 x 6	3/4 x 5 1/2
1 x 8	3/4 x 7 1/4
1 x 10	3/4 x 9 1/4
1 x 12	3/4 x 11 1/4
2 x 2	1 1/2 x 1 1/2
2 x 4	1 1/2 x 3 1/2
2 x 6	1 1/2 x 5 1/2
2 x 8	1 1/2 x 7 1/4
2 x 10	1 1/2 x 9 1/4
2 x 12	1 1/2 x 11 1/4
4 x 4	3 1/2 x 3 1/2

When ordering lumber in the store, you state the number of pieces you want, then the length and then the nominal dimensions.
Like this: I want four 8 foot 2 x 4's.

Exercises

A. Identification of Nominal and Actual Sizes

The teacher gives students flashcards with nominal sizes on one side and the actual sizes on the other. Students then work in pairs to identify the corresponding sizes, using this pattern:

(If the nominal size is shown) What's the actual size?

(If the actual size is shown) What's the nominal size?

B. Information Gap

Fill in the information for actual and nominal size wood.

1 x 2	_____
_____	3/4 x 2 1/2
_____	3/4 x 9 1/4
2 x 2	_____
2 x 10	_____
_____	1 1/2 x 1 1/4
4 x 4	_____

Exercises

C. Substitutions
Repeat the sentences that your teacher says and substitute the nominal dimensions in the sentence.

You should probably get four 6 foot 1 x 6's.
2 x 4's
1 x 12's
2 x 6's
2 x 10's
2 x 12's
1 x 6's
1 x 4's
1 x 8's
1 x 4's

Structure Focus

Study these sentences:

Vu should get 2 x 4's to frame the house.
Zaher should buy 4 x 4's for his fence.
Oswaldo should use 1 x 12's for his flooring.

Should is also used to express advice based on factual information or probability.

Exercises

D. Writing Advice
Read the sentences and write advice using should and the response in parenthesis.

1. Juan wants to build a garage that is 32 x 12 feet.
(ten 12 foot 2 x 4's)
Juan should get ten 12 foot 2 x 4's.

2. Mohammed is going to build a deck that is 30 x 42 feet.
(eight 10 foot 2 x 12's)

3. Lee is going to make a bookshelf that is 53" x 80".
(six 2 x 3 fir strips)

4. Jim wants to build a fence.
(four 6 foot 4 x 4's)

5. Vinh wants to install a window that is 2 x 3 feet.
(two four foot 2 x 4's)

6. Abdul is putting up a roof.
(eight 4 foot 1 x 3's)

7. Fred is installing the floor for a room that is 32 x 45 feet.
(twelve 10 foot 2 x 4's)

8. Boris is installing a door that is 2 1/2 x 6 feet.
(two 6 foot 2 x 4's).

9. Rita is making a cabinet that is 25" x 20".
(four 3 foot 1 x 4's.)

10. Ricardo is framing a room that is 23' x 32'.
(eight 10 foot 2 x 12's).

Exercises

E. Dialogue
Practice this model with the cues below.

A: What do you need?

B: I'm not sure. I want to put up some shelves about 15 inches deep. What size lumber should I get?

A: You should probably get 8 foot 1 x 8's.

B: Okay, get me SIX 8 FOOT 1 X 8'S.

1. **get some fence posts**
8 foot 4 x 4's
FOUR 8 FOOT 4 X 4'S

2. **build a deck**
8 foot 1 x 12's
TWENTY 8 FOOT 1 X 12'S

3. **frame a room**
8 foot 2 x 4's
FOUR 8 FOOT 2 X 4'S

4. **put up some paneling**
8 foot 1 x 2's
TWENTY 8 FOOT 1 X 2'S

5. **get some support beams for my basement**
8 foot 1 x 3's
TWENTY 8 FOOT 1 X 3'S

6. **get joists for the roofing**
12 foot 2 x 12's
TWENTY-FOUR 12 FOOT 2 X 12'S

Exercises

F. Roleplay

The teacher provides props for roleplaying a scene at a lumber supply store. Students practice asking for and giving advice about buying lumber. Use the models in exercise E as a base. Assign roles for the sales clerk and the buyer. Students may practice in small groups or in pairs and then present before the class.

Situation 1: A buyer needs advice on what size lumber to buy for the framing of his house.

Situation 2: The buyer tells the clerk what lumber he wants to get to build his deck.

Glossary

abrasive - material used for smoothing wood such as sandpaper.

angle - two lines that come together at one point.

arch - a curve that is not a circle

beveled cuts - cuts at any angle that are not 90°.

board feet - a measurement for lumber in which 1 board foot is = 12 x 12 x 1 inch (length x width x thickness).

cabinet work - fine finished wood work.

coarse - very rough with lots of large particles.

concrete - a very hard strong building material made of cement, sand and gravel. Often used for foundation work.

curve - a line that bends.

defects - a flaw (dents, scratches, knots, etc.) that hurts the appearance and reduces the quality.

diameter - the length of a straight line through the center of an object.

dressed - lumber that has been processed by trimming and smoothing.

drive - to force a nail or screw into the wood.

durable - to exist for a long time without wear.

edge - the line where an object begins and ends -- border.

fastener - hardware used to attach pieces of wood together.

fine - a thin texture. Opposite of rough.

finish - a. the fine or decorative work of a building - also called trim. b. the process of treating wood to bring out its natural color.

finish carpentry work - carpentry work that specifically deals with fine woodworking such as cabinet making and furniture.

flooring - material used for making floors.

flush - to set even with the edge. (example - to make a nail head flush with the wood)

footings - large holes filled with concrete for supporting construction.

framing - the process of building a structure for a home, door or window that supports the entire work.

grade - scale for comparing the quality of wood.

grip - to hold onto firmly.

grit - hard little particles (sand, gravel) that are part of sandpaper.

grooves - a long narrow channel or indentation.

hardness - a measure for wood identifying its ability to resist scratching, denting etc.

header - a horizontal piece of wood that supports floor joists, studs, or rafters.

heavy construction - outside carpentry work dealing with framing buildings and foundation work.

horizontal - level, going across

inserting - to put in place

joints - the area in which two ends or surfaces are attached.

length - how long something is from end to end.

level - having no part higher than another - exactly even with the surface.

mark - to make a short line with a pencil so that the wood can be cut accurately after measuring. "mark the wood"

miterbox - a box supporting and guiding the handsaw for cutting at an angle.

molding - the decorative finish around doors, windows and ledges.

paneling - thin, flat pieces of wood often used for covering the walls for a decorative finish.

plywood - wood made up of several sheets of low quality wood glued together.

rafters - beams that support a roof.

right angles - an angle in which two lines are perpendicular to each other - 90°.

rough carpentry - see heavy construction.

rust - to rot away and turn reddish brown.

shaping - to cut wood so that it has a certain form.

sink (sank, sunk) - to drive a nail below the surface.

studs - beams of wood that stand up vertically for framing walls.

surface - the flat top or visible part of the wood.

texture - the grain pattern in the wood.

threads - the circular rings of screws and bolts.

trim - a. to cut away in very thin pieces, b. decorative woodwork around windows, doors, edges. Also called molding.

vertical - upright, running up and down.

wallboard - an artificial wood made of plywood. Used for inside walls.

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